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THE
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OF
MEDICAL SCIENCE.

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THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*Hernia and Taxis.** By HENRY GRAY CROLY, Fellow and Past President, Royal College of Surgeons; Senior Surgeon, City of Dublin Hospital; Consulting Surgeon to the Monkstown Hospital. Formerly Senior Demonstrator of Anatomy, Teacher of Surgery and Operative Surgery, and subsequently Examiner in Anatomy Surgery, Royal College of Surgeons in Ireland.

No subject in surgery is of greater interest to the practical surgeon and clinical teacher than Hernia. When a junior student in the School of this College I was taught the anatomy of hernia by one of the ablest and kindest Professors who ever filled the Chair of Anatomy—John Hatch Power—and at the same period, being a pupil and “Purser-student” in the City of Dublin Hospital, I had the fullest opportunities for studying the surgery of the disease. As time went on I had still greater opportunities of studying the surgery of hernia during a two years’ house-surgery; and being then a demonstrator of anatomy in the College

* Read before the Section of Surgery in the Royal Academy of Medicine in Ireland, on Friday, April 26, 1895.

I took a deep interest in teaching the anatomy of hernia as applied to surgery. On looking over my case-books recently I found the notes of the first case which I recorded when Purser-student (surgical resident pupil). It was a case of strangulated inguinal hernia under the care of Prof. Hargrave. From the time of my appointment as surgeon to the hospital, August, 1863, until the present Session, I have had a very large and varied experience in hernia of almost every variety—a series of cases of much interest came under my care during the present Session, and, in selecting a subject for the consideration of this Section of the Academy, I felt I could not do better than place on record some of my own experience on hernia and taxis gained by a long personal knowledge, acquired in my hospital and private practice. In such a Society as this I am addressing many who, like myself, have learned by patient dissections the surgical anatomy of hernia, and who, having acquired that knowledge, have had the subject fixed for ever on their minds by the teaching of students and “the application of anatomy to surgery.”

On several occasions, from 1863 to 1871, I brought the subject of strangulated hernia and taxis under the notice of the members of the old Surgical Society of Ireland; and as the subject of hernia is always interesting, *each case presenting some peculiar feature of its own*, I am induced once more to communicate cases selected from a long list since my last report appeared in the Proceedings of the old Society. I also look forward with pleasure to the discussion sure to be elicited in this Section of the Academy on so important a subject as hernia by the distinguished hospital surgeons and teachers whom I have the honour of addressing.

At recent meetings of this Section the subjects of *internal strangulation* and *laparotomy* (to which *external strangulation* and *herniotomy* are very closely related), and the subject of *appendicectomy*, were communicated and discussed.

As *taxis* precedes *herniotomy*, a few practical remarks on the subject may not be out of place before detailing some of my cases.

“TAXIS.”

Taxis *should* mean the methodical, gentle manipulation of herniae, for the purpose of effecting their reduction, but under the mild expression “the use of the taxis,” the hernia but too frequently is compressed by forcible manipulation, its tissues are contused and irreparably damaged—in fact, more injury may be inflicted on the bowel in *a few minutes* by *coarse*, careless, impetuous brute force, than the *constriction* alone could produce in several days. Desault says:—“Always think favourably of a strangulated hernia when the taxis has not been used.” I have, in my clinical teaching, ventured to modify that important surgical aphorism, thus: “Think favourably of a strangulated hernia when the taxis has not been *abused*.” That taxis is essentially a process of more or less violence, no one who understands the subject can deny, and the method of employing *taxis*—*when* to adopt it, and the time to *refuse* such manipulation and *proceed at once to operate*—can be acquired only by experience. If there are signs of inflammation, oedema, emphysema, or gangrene, or if the patient is collapsed, taxis should *not* be employed. If the tumour is very tense, especially in femoral hernia, the less taxis the better. In my own practice for many years, both in hospital and private practice—having satisfied myself from the symptoms, constitutional and local, that the case is one of strangulation—I have an enema administered by means of a long tube and the bladder emptied; I explain fully to the patient and friends the serious nature of the case; I have the patient anæsthetised and the instruments and appliances close at hand; I give the taxis, in *suitable cases*, a fair trial, having the parts relaxed by proper position; and, if no impression can be made on the tumour, I proceed with the operation forthwith. Taxis cannot be practised as long in *femoral* as in inguinal hernia, in consequence of the contents of the sac and the dense and *unyielding* structures involved. I have seen the marks of the fingernails of the “taxist” surrounding a femoral hernia. I have seen the intestine burst by the violent efforts of a patient to reduce a femoral hernia, and the contents of the intestine

extravasated into the abdominal cavity—the *post-mortem* examination verifying the diagnosis. I have seen a femoral hernia reduced *en masse* by *taxis* “with inversion of the body” many years ago, and the patient died. Dangerous as *taxis* is in unskilful hands, it is often, in experienced hands, the cause of death by the dangerous delay in operating, and giving time for peritonitis or gangrene to be established; and yet we read in the present day in a medical journal such statements as these—“Statistics of herniotomy did not give unqualified support to the arguments of those who ‘held that operations did not increase risk.’” “Students were now warned against the *taxis* as being in itself dangerous, and, on all hands, early operations were enjoined.” Yet despite the fact that many cases were now operated on which would formerly have been reduced without operation, the statistics of the operation did not improve, and it might be reasonably feared that the fatality of strangulated hernia, taken as a whole, had increased. It was to the “strangulation” itself that the results were due which it was customary to attribute to the surgeon’s hands.

This distinguished surgeon goes on to say:—“He was sometimes amused to hear *forcible taxis* denounced; he had always been accustomed to use all the force that his hands possessed, and had often regretted that they tired too soon.” “He had lost three patients after reduction of femoral hernia by *taxis*, but not one after *inguinal*.” “It was the experience of all surgeons that little or no anxiety attached to cases in which the *taxis succeeded*, while statistics placed it beyond doubt that the mortality after operation was large. These undoubted facts constrained to the belief that the operation was in itself a cause of danger.”

In my own practice I have never seen anything to *amuse* in strangulated hernia, though I have always been intensely interested and deeply impressed with the gravity of the subject. The most distinguished and experienced surgeons, operators, and anatomists, from Hey’s, Desault’s, Sir A. Cooper’s, and Lawrence’s time down to the present, were and are in favour of *early herniotomy*, and it is, therefore, to me most incomprehensible how any thoughtful and expe-

rienced surgeon could give the advice which I have just read.

Sir A. Cooper says—" *No violence* should ever be used; for besides being unavailing, it greatly aggravates the *inflamed state of the contents of the hernial sac*, and has been known even to *burst the gut*." Mr. Lawrence says—" When the rupture becomes painful we are no longer justified in attempts at reduction by the hand—a sufficient pressure cannot now be endured; and the force which is employed only tends to increase the inflammation and accelerate gangrene. At *this* period the operation is required and should be performed without delay."

In strangulated hernia every moment is of vital importance, and upon the skill, judgment, and firmness of the surgeon the lives of his patients hang. On looking over the proceedings of the old Surgical Society of Ireland, January 13th, 1869, I find that in a discussion on strangulated hernia, following on a communication of mine, in which I urged early herniotomy, my senior surgical colleague, Professor Hargrave, said—" I agree with Mr. Croly that the *taxis* should be abolished; it was not from the *operation* the patients died, but from the *delay* in having recourse to it." I had seen at that time such disastrous results from *taxis* practised on patients before coming to hospital, and after admission by "all hands" in the hospital, that I dreaded the *taxis* far more than the *operation*, and Mr. Hargrave and Mr. Tufnell, both skilled in hernia, especially Mr. Hargrave, practically gave up *taxis*, except in cases *not acute*. If all cases of strangulated hernia came under the observation of a judicious and experienced surgeon, and that after an attempt, under an *anæsthetic*, the *taxis* failed, herniotomy was performed, very few lives would be lost.

Here is the advice of the experienced Hey on the subject of hernia:—

" I can scarcely press in too strong terms the necessity of an early recourse to the *operation* in this dangerous disease." He adds, if Mr. Potts' opinion be true, that " the *operation*, when performed in a proper manner and in due time, does not prove the cause of death oftener than perhaps

one in 50 times," it would *undoubtedly preserve the lives of many to perform it almost as soon as the disease commenced, without increasing the danger by spending much time in the use of means which cannot be depended upon for a cure.* Mr. Hey saw this disease prove fatal in twenty-four hours.

When Hey commenced his practice in 1759, in Leeds, the operation was considered as the last resource. By this dilatory practice, he adds, I lost 3 patients in 5. He continues—"I have now performed the operation (1809) 40 times, and often had occasion to lament that I had performed it too late, but *never* that I had performed it too soon." As his experience improved he operated early and lost 2 in 9.

My friend Mr. Bryant, Past President R. C. S. England, writes to me as follows:—

"*Forcible taxis* is only justifiable when all other means are rejected by the patient or his friends, and the alternative is to let a case take its course. A former colleague of mine, now dead, was fond of force, and he certainly succeeded in reducing femoral and inguinal hernia when other surgeons had failed; but it must be added that when I went over the P. M. records of hernia cases, those that died from rupture of the bowel were all registered as having been under his care, consequently what successes he might have gained were more than neutralised by these fatal failures. For my own part, as a method of treatment, I condemn force, and feel that the taxis should never be applied in a case of *strangulated* hernia unless the patient is under an anæsthetic, when, if the taxis is to succeed, it will do so by a pressure which cannot be called forcible. The value of chloroform as an adjuvant to the taxis is seen better in inguinal than in femoral hernia; but it is good in both, and should be employed.

"In neglected cases of femoral hernia the taxis may be omitted in favour of early operation, for with early operation success would probably almost always be secured."

Mr. South recorded a case in which a strangulated hernia reduced itself by the patient being driven in a jolting cart without springs to hospital. The taxis had been tried by Mr. South, in one of the London suburbs, and failed. When Mr. South arrived at the hospital and examined the patient the hernia had retired.

How admirably adapted some of our streets and roads are in this city and suburbs for a full trial of reduction of herniæ by "road jolting."

A most instructive and interesting case was mentioned to me by my late friend, Mr. Young, of Monaghan, surgeon to the county infirmary. A young man was admitted to his hospital, suffering from intestinal obstruction; all the usual treatment short of operation had been tried without effect—even to the swallowing of a large quantity of quicksilver. The friends at last came for their son, having an idea, and probably correctly, that a *post-mortem* examination was contemplated. No persuasion on Mr. Young's part, or that of his staff, had any effect in deterring the patient or his friends from the risks attendant on his removal to a distance in the country, and accordingly he was placed in a common cart without springs, and with straw for a bed. The patient was jolted home, and on his arrival was put to bed; shortly afterwards some of the young children in the house were seen on their hands and knees trying to *catch* the quicksilver, which had passed through the obstructed bowel. The result of this case was a perfect recovery, which Mr. Young attributed to the *jolting* having forced the quicksilver through the obstruction.

Cases have been recorded in which a surgeon had his patients, suffering from irreducible hernia with symptoms of strangulation, placed in a wheel-barrow with the legs hanging over the end, and this was pulled over a rough road. Sudden alterations in the position of the body sometimes effect reduction.

A case is recorded of an old man who was attended for a large scrotal hernia in a state of strangulation. The patient insisted on his surgeon placing him with his legs hanging over the rail at the foot of his bed, whilst his body was dependent. This plan succeeded admirably.

There was no hand or finger force employed in these cases.

In the ordinary forms of inguinal hernia the chief point of anatomical interest is the position occupied by the deep epigastric artery, and its avoidance when dividing the stricture.

The aperture through which a femoral hernia protrudes is very small in its normal state, and its surroundings are very dense and unyielding. This explains the extreme urgency of femoral hernia, and the failure of *taxis*, and danger of delay in operating, as compared with cases of inguinal hernia. In long-standing cases the ring becomes very large and the risk of strangulation less. The femoral ring, when dissected from within, is about large enough to admit the end of the little finger, and the opening is closed in normal state by Cloquet's septum.

The naturally small size of the femoral ring is frequently narrowed by an irregular obturator artery coming off from the epigastric and encircling the ring except on its posterior border. A lymphatic gland often occupies the ring and may give rise to trouble in connection with femoral hernia. As a femoral hernia escapes through the femoral ring and bursts its way through the cribriform fascia, it ascends from the bend of the thigh and passes on to the abdomen over the ligament of Poupart, and rests on Scarpa's fascia—a most important anatomical fact, as applied to the surgery of femoral hernia, as the coverings of the hernia are then very thin. The hernia, when ascended, expands and becomes oval in the long axis of Poupart's ligament (*its neck dipping deeply into the hollow of the thigh*).

In the male subject a femoral hernia so located is very liable to be mistaken for a direct inguinal, and may put the surgeon off his guard. The differential diagnosis, even in very fat patients, may be made by the position the *neck* of the tumour occupies, which in femoral hernia has Poupart's ligament above it, and the pubic spine on the same horizontal level and to its *inner* side, whilst in direct inguinal hernia Poupart's ligament is *below* the tumour, and the pubic spine lies inferior.

A femoral hernia may be constricted deeply in the femoral ring, and a very large irregular obturator artery may add to the constriction—the sac may be very narrow at this point. The ligament of Hey, the fibres of Colles, the posterior margin of Poupart, and the ligament of Gimbernat, have all been blamed as the cause of strangulation, as also the omentum. As the description in the

class-books of the fibres, known in Dublin as Colles' fascia of femoral hernia, is not very clear, I may be pardoned for referring to this important anatomical point as applied to the surgery of femoral hernia. The iliac portion of the fascia lata is attached above to the crest of the ilium, and to the lower edge of Poupart's ligament, as far inwards as the base of Gimbernat's ligament; its internal edge is limited and forms the falciform process, the concavity of which looks downwards and inwards, and presents a superior cornu (Hey's ligament), and an inferior cornu (Burn's ligament), with an intervening space.

The superior cornu is of variable strength, being thick in the *male* adult, but thin and often separated into bands in the female. It is attached (*i.e.*, the superior cornu) superiorly to Poupart's ligament, at the internal fifth of which it divides into two processes. One, superficial, is prolonged *downwards* and *inwards* to the *pubic* portion of the fascia lata—this is Colles' fascia of femoral hernia (see Colles' *Surgical Anatomy*, also Flood and Ledwich)—while the other process dips *backwards* and is attached to the linea ileo-pectinea, and the base of Gimbernat's ligament. This constitutes Hey's ligament, and passes in front and internal to the femoral ring. I have observed and frequently demonstrated that Gimbernat's ligament in the male is a *broader* structure than in the female, and, in consequence, femoral hernia in the male is frequently more tightly constricted than in the female. The close proximity of the spermatic cord to the seat of stricture in femoral hernia is very important for the operating surgeon to keep before him.

The distinguished Abraham Colles, in his excellent treatise on *Surgical Anatomy*, published in 1811, says: "An intimate knowledge of the anatomy of the parts concerned is more necessary to guide our practice in crural hernia than in any other forms of the disease; the small opening at which the bowel protrudes, the firm and sharp edges; the great depth from the surface, the superficial situation to which the tumour often rises—all conspire to render the practice difficult in the hands of the best informed anatomists and most dexterous surgeons; and must add to

the dangers arising from the errors of the ignorant and the attempts of the awkward."

The following cases of hernia came under my care during the present session, each case presenting features of much practical interest, and bearing out what I often heard from my teacher, and afterwards colleague, the late Professor Hargrave, that no two cases of hernia are alike—there is always something new about them :—

CASE I.—C. O'R., aged seventy, was admitted to the City of Dublin Hospital on the 2nd of January, 1895.

On December the 31st, at 12 o'clock at night, he began vomiting the contents of the stomach, and on the following morning he sent for my friend, Dr. Hamilton, of Enniskerry, who immediately sent him to me. He had been suffering for the last 26 years from oblique inguinal hernia on the right side, and for 20 years from hernia on the left side, both easily reducible. Two years ago the right hernia became irreducible, but the hernia was reduced by means of poultices and stupes.

On the night of the patient's admission it was found that the right hernia was strangulated. I then decided to operate. The operation was performed at ten o'clock that night in the ward. The sac of the hernia was cut down upon and opened. The contents of the sac were, the vermiform appendix and a piece of gut—the former was gangrenous, the latter was healthy. The vermiform appendix was removed and the sac was cut away. Patient's temperature was normal after operation, and remained so during the whole course of treatment, and he never had any bad symptom. He was fed per rectum for four days after the operation, and the bowels moved naturally after a few days.

CASE II.—M. D., labourer, aged fifty-one, was admitted under my care, on Thursday, February 21st, 1895, recommended by Dr. Ashe, former house-surgeon, suffering from a strangulated *femoral* hernia on the right side.

History.—Stated that he had had a rupture for five years, but that he could always put it back until Sunday last. No recollection of how it came on, but thinks it was a strain.

On Sunday, 16th, the gut came down while in bed, and he was unable to reduce it. Had a spasmodic pain, referred to a point a little below the umbilicus. On Monday he vomited after his breakfast, the vomited matter coming up with a gush without any effort.

on his part, and having a sour taste. He went to his work and struggled on at it until Wednesday evening, when he sent for the doctor, who recommended him to go to hospital, which he did not do till Thursday afternoon. Had vomited off and on during the week about ten times. After admission to hospital he had a slight hiccough. Bowels constipated since Saturday last.

On admission patient was given a sitz bath and put to bed. On examination, I found that he had a tumour, about the size of a large egg, about the middle of Poupart's ligament. Tumour was tense and hard. The abdomen was *distended*, and tympanitic on percussion; his face anxious, and he was hiccoughing slightly. He vomited once at 4 o'clock in the afternoon. I decided to operate, and did so at 9 30 p.m. on Thursday. I made a single straight incision, about four inches long, over the centre of the tumour, divided the fascia down to the sac on a director, and opened the sac, when some fluid escaped, and a coil of gut and some omentum was seen. I inserted my little finger down to the constriction, and, using it as a director, put in the hernia knife and divided the constriction, when a distinct click was heard, and the gut immediately retired. I then held the sac low down and cut off the remainder and sewed up the wound. The patient was then put to bed, and was fed per rectum by nutritive enemata and suppositories alternately every four hours. His temperature next morning was 98.4°, pulse 80; that evening, temperature was 99°. He had no rise of temperature during his time in hospital; the *bowels moved naturally the night of the operation*, and the wound healed in 14 days. The patient left hospital perfectly well on March 30th.

CASE III.—Case of Ventro-entero-Epipocele reduced by Taxis.—H. B., aged forty-four, 7 Christchurch-place, came to the hospital to see me on the morning of 21st Nov., 1894 (discharged 17th December), complaining of severe pain caused by a hernia to the left of the umbilicus, from which he suffered for some years. The man's face showed signs of distress, his pulse quick, bowels constipated, and he said he failed in the attempts at reduction. On examination I found an entero-epipocele about as large as a medium apple. I strongly advised the man to stay in hospital, which, he said, he could not do until the evening, having to make some arrangements at home. On his return to the hospital, having walked a considerable distance, he was much worse; the colicky pains were severe. He had a hot bath, and on being put to bed an enema was administered by means of a long tube, and ice was

applied to the tumour, which was painful to the touch. I subsequently succeeded in reducing the gut, which went back with a jump, leaving the omentum as it was. The colicky pain ceased, but there was a rise of temperature in the evening, and the patient looked very ill. As I could not discover signs of abdominal trouble, I looked elsewhere, and I soon detected a "pneumonic crepitus" in the left axilla. This, though a serious complication, eased my mind as regarded the hernia. The patient made a slow but good recovery; the confinement in bed and the character of the diet had a good effect on the omental tumour, which got much smaller, and the patient left hospital, having been cautioned as to the risks incurred if proper precautions were not taken.

CASE IV.—Incarcerated Right Bubonocèle reduced by Taxis.—A man, aged about thirty-five years, came to the hospital to see me during my clinical hours a few weeks since. He was suffering from a rupture which he could not put back. The man was brought up to my ward, stripped, and placed on a bed. I found a large right bubonocèle, very tense, which existed some years, but was heretofore easily reduced; he wore a truss, which allowed the gut to come down. The hernia was of the direct form. By elevating the legs and drawing the scrotum through my fingers, I succeeded, after some time, in getting the bowel up; a few hours later the case would have given trouble. Having a case of "femoral hernia" in a man in the adjoining bed, I was enabled to point out to the class the differential diagnosis—a very important and practical point anatomically and surgically.

CASE V.—Case of Strangulated Right Femoral Hernia; Sac contained Gut, Omentum, and Vermiform Appendix.—Jan. 20th, 1891, I was summoned by my brother, Dr. Albert Croly, to a case of strangulated femoral hernia in a lady patient of his, aged over seventy years. My brother was called same evening to the case (right femoral), when he applied ice to the tumour, had an enema administered, and gave the taxis a fair trial. The symptoms were—constipation, severe colicky pain in the abdomen, quick pulse, restlessness, anxious face, and an irreducible tumour about the size of a small orange occupying the region of the right femoral ring. The lady wore a truss for years, and had several narrow escapes of strangulation. When I arrived my brother informed me that the tumour had reduced in size considerably; but the symptoms continued. On examination I found a small, soft tumour, just below Poupart's ligament; on rolling the integuments over the hernia it was evident, from its

feel, that it was deeply placed. On consultation we decided to recommend the patient to take an anaesthetic, have one more gentle trial of taxis, and this failing, to have herniotomy performed at once. As the lady's son was a long distance from town, it was arranged to wait until morning for permission, which arrived by telegram. The lady was anaesthetised by Dr. Hawtrey Benson, when I gave the taxis a full and fair trial, which produced no effect whatsoever in effecting reduction. Accordingly I performed the usual operation, assisted by Dr. A. Croly, and when the sac, which was thin and translucent, was reached, I saw a piece of omentum, and, when the sac was opened and clear fluid escaped, I found the vermiform appendix at the right side, the bulging end of the cæcum presenting at the ring, and portion of omentum, shaped *somewhat like the auricular appendix*, covering the gut and vermiform appendix. The vermiform appendix was normal in appearance, the presenting portion of gut was *deeply congested*, and the stricture very deep and tight. I divided the constricting fibres, and then the hernia was easily returned; gut first, nearest constriction; then omentum; last, vermiform appendix. The lady made a good recovery, and I saw her lately in the enjoyment of perfect health.

Observations.—This case was most deceptive. The tumour was so much reduced in size as to lead to the supposition the gut had been reduced, leaving a portion of omentum.

That no patient should be denied the chance afforded by herniotomy, the following case will illustrate:—

CASE VI.—Mr. W., in his eightieth year, residing at Rathfarnham, had right inguinal hernia for years; it became irreducible and afterwards strangulated. When he sent for my father, his condition was one of extreme danger, and I was sent for in consultation. I found a very large, tense, oschoecele; the patient had all the symptoms of advanced strangulation. On consultation we decided, if permitted, to operate, even in the almost hopeless condition. When asked by the relatives my opinion, I said—"Without operation, he must die; with it, he may live; make up your minds, at once." We got the permission of the patient and relatives to operate. I cut down on the sac, which was very large and hour-glass, the constricting band had commenced to ulcerate, like a neglected paraphimosis. I divided the stricture, and found a very large coil of small intestine, which was easily reduced. The patient made a good recovery, and lived for several years.

CASE VII.—Right Femoral Hernia ; Five Days Strangulated ; Gut deeply Congested ; Omentum Gangrenous ; Herniotomy ; Recovery ; Radical Cure.—E. H., married, aged forty-six years, residing at Harold's-cross, was admitted into the City of Dublin Hospital under my care, on the recommendation of my former apprentice, Dr. Hearn, medical officer to the Rathmines Dispensary. The patient consulted Dr. Hearn for the first time on the day of her admission into the hospital ; he at once recommended her immediate removal to the hospital.

Previous History.—The woman states that she suffered from the hernia for several years ; never wore a truss. The tumour was reducible until the 31st March, on which day the hernia came down, and she was unable to put it back. She was seized with colicky pain, vomiting, and constipation. These symptoms continued, and when visited by Dr. Hearn he found the vomited matter *sterco-raceous*.

State on Admission into Hospital.—Patient collapsed ; eyes sunken ; extremities cold ; "hernial face" very marked ; hiccough ; pulse feeble ; abdomen distended ; tongue dry and brown ; outline of intestines marked ; temperature 97.4°. A femoral hernia, about the size of a hen's egg, observed in right groin, oval in long axis of Poupart's ligament, over which it has ascended, thus resembling an inguinal hernia ; the integuments discoloured at each end of the tumour, simulating a bubo ; the centre of tumour tense, painful, and red ; vomiting continues.

Notwithstanding the forlorn-hope aspect of the case, I decided to give the patient the chance of operation ; accordingly, she was placed under the influence of ether, and I proceeded to operate. I adopted the single incision, commencing well above Poupart's ligament, and extending down towards the saphenic opening. The coverings being very thin, I soon reached the sac, which was dark-coloured. The difficulty of recognising the sac was very great. I drew down the intestine and partially divided Poupart's and Hey's ligaments, both of which were very tense. The sac cut almost like cartilage. A small quantity of very dark-coloured fluid escaped. Two large portions of omentum (in shape like the auricular appendices of the heart), gangrenous in colour and *odour*, were thus exposed, and on reflecting these appendices a knuckle of deeply congested gut was seen. Each portion of the omentum was drawn down and ligatured with carbolised gut above the gangrenous portion which was cut off. Portion of the sac, which was very thick and discoloured, was also removed and sutured. Only one small vessel required a ligature. A sponge squeezed out of very

hot carbolised lotion was applied, and the forefinger passed round the gut to ascertain that there was no internal constriction. The knuckle of gut was easily reduced and followed with the finger into the abdomen. A drainage tube having been introduced, the wound was closed and dressed. The *pulse improved under the ether.*

Treatment after Operation.—Chicken jelly, brandy, lime-water and milk, hot flannels to abdomen, hot jars to feet and thighs, also to axillæ and arms, 1 gr. of ext. opii. aq. every hour. At 9 30 p.m. (about two hours after operation), pulse 112; temp. 98°; *bowels were moved naturally; passed urine.*

April 5th (2nd day).—Temp. 96·4°; pulse 108, feeble; skin cold; voice weak; slept very little; vomited several times; abdomen distended and tympanitic. Ordered iced champagne; hypodermic of ether every third hour. The arms were enveloped in wadding and flannel rollers; urine drawn off.

Evening Visit.—Temp. 100·1°; pulse 112; vomiting and tympanites less; voice stronger; heart's sounds improved; urine drawn off.

April 6th.—Temp. 100·4°; pulse 112; slept well; took nourishment and stimulants.

Evening Visit.—Temp. 99·4°; pulse 120; passed a good day; bowels moved naturally three times; evacuations partly solid; urine drawn off.

April 7th.—Temp. 101·8°; pulse 110; patient slept well, taking nourishment, also brandy and champagne; bowels moved four times during night; house surgeon considered it necessary to administer starch and laudanum enema; drainage tube removed.

Evening Visit.—Temp., 100°; pulse, 92; had four motions during the day; anodyne enema repeated; turpentine fomentation and linseed poultice to abdomen.

April 8th.—Temp. 98·8°; pulse 110; wound dressed; upper portion united.

Evening Visit.—Temp. 98·4°; pulse 100.

From this day the patient made an excellent recovery, and left the hospital quite fat, with no hernial protrusion, a radical cure being effected.

Case in which a large right Oschocele marked an Obturator Hernia.

CASE VIII.—Mr. —, aged about fifty years, was attacked with symptoms of strangulated hernia. He had a large scrotal hernia (right) which a truss failed to keep up. He was seen by the late Mr. Cusack in consultation with the late Professor Charles Benson. When Mr. Cusack examined the case he raised up the scrotal

tumour—discovered an obturator hernia, which was easily reduced, when all the symptoms disappeared. The scrotal hernia, which at that time was not the cause of the trouble, became strangulated some years afterwards, and I was called in by Professor Benson, who told me of the obturator hernia. I operated successfully on the escheocele.

Strangulated Scrotal Hernia, left side. Herniotomy Sac (hour-glass). Sac not opened.

CASE IX.—Mr. B., aged seventy years, has been the subject of hernia for years. Wore a truss many years ago. Had a strangulated obturator hernia, and was then attended by Mr. Cusack and Dr. Benson, when operation decided on. Table arranged, when hernia was reduced by taxis on this occasion.

Hernia, irreducible for ten days at least, became strangulated on Friday, but vomited all Friday night and Saturday morning stercoraceous matter in large quantities.

Seen by Dr. Coulter on Saturday morning, and by Dr. C. Benson on same evening. Injections administered by means of O'Beirne's tube. Taxis tried and failed.

Sunday, March 3rd, at 11 30 o'clock a.m. I was sent for to meet Drs. Benson and Coulter in consultation. Found Mr. B. suffering from strangulated scrotal hernia. Patient's face pale and characteristic of the disease; tendency to hiccup; gulping vomiting of some fluid; pulse rapid; scrotum at right side as large as the largest cocoanut; lower end of scrotum bluish from congestion; impulse on coughing at ring, none at scrotum; other hernia outlets free (obturator space, site of former hernia examined).

I diagnosed stricture in sac, not at ring, in consequence of impulse at ring. Operation proposed and consented to by patient. Table arranged; spray producer applied; several layers divided at upper part of tumour; on reaching the sac the intestines could be distinctly seen, and an hour-glass stricture was at once observed; a director was passed under the constricting band and divided the scalpel; finger passed around the upper part of neck of hernia; Poupart's ligaments readily felt; no stricture high up; wound closed and covered with hot sponge; slight pressure on scrotum caused hernia to return readily with gurgling sound; wound then sponged dry (merely a few drops of blood lost).

Five silver wire sutures introduced; a compress of lint laid over track of incision; compress folded towel secured by spica bandage adjusted; leg flexed.

The operation was barely over when patient had a motion from bowels and passed wind.

Six p.m.—Pulse full, soft, and regular; a second motion from bowels since operation, urine passed also; no vomiting or hiccough; abdomen soft.

Ten o'clock p.m.—Pulse 90, full, soft, and regular; another motion from bowels, solid matter and flatus since last visit; patient taking milk, ice, and whiskey in cold water; compress and bandage re-applied. Patient slept; countenance natural; stomach quite settled.

Monday, 4th.—Patient slept well; abdomen soft; pulse full, soft, and regular. Allowed to sit up.

Case of Left Femoral Hernia in a Lady, which was overlooked.

CASE X.—I was called to see Mrs. ——, aged thirty-six years. On driving to the house, her husband told me his wife was pregnant about three months. She was treated for sickness of stomach, and had been taking effervescent mixtures. On entering the room I was struck by the appearance of the lady's face, and I suspected hernia. On questioning her, she said she had no swelling of any sort, and seemed rather unwilling to have any examination made. I soon persuaded her to submit, and I discovered a small, very tight hernia deep in the left femoral ring. An enema was administered by means of a long tube, and ice was applied to the tumour. Sir George Porter saw the lady with me about two hours after my visit. Chloroform was administered, and as the hernia was quite recent, and not handled, we agreed to give the taxis one fair trial, which was done, and failed to make any impression on the size of the small tumour. I then operated by Gay's method, by making a small incision on the *inner side of the hernia*. Some very tight fibres were divided, and the gut went back. The bowels acted on the operation table, and the lady made an uninterrupted recovery.

At a meeting of the Surgical Society in March, 1871, I recorded several cases of strangulated hernia, one being the case of a woman, aged 50 years, with strangulated left femoral hernia, recommended to my care by the late Dr. Wyse. Taxis failed. The patient, on admission to hospital, was collapsed; like a case of Asiatic cholera—vomiting and hiccough constant. Hot jars were applied to the feet, thighs, and body. Herniotomy was performed. *The gut was very deeply congested.* The patient, notwithstanding the forlorn aspect of the case, made an excellent recovery.

Strangulated Femoral Hernia ; Operation ; Formation of Fecal Fistula ; Recovery.

CASE XI.—Some years ago I was called to Mrs. ——, aged nearly seventy years, in James's-street West, and found her suffering from right strangulated femoral hernia. Taxis failed in my hands. Mr. (now Sir William) Stokes saw her with me and agreed with me that herniotomy should be performed at once, and I accordingly operated, assisted by him. The stricture was *very tight*, and the gut *very dark-coloured*. I divided the stricture, but thought it prudent not to attempt reduction. All went well for some days, when I observed a small discharge of *faeces* on the dressings. The fistula gradually closed, and the patient got perfectly well.

Right Femoral Hernia in a Man, aged eighty years.

CASE XII.—Some years ago I was visiting a patient off James's-street West, and on coming down stairs an old man came out of his room, grasped his abdomen in his hands, and asked me to give him something to relieve a bad pain in his belly. His appearance attracted my attention. I got him to lie down on his bed and discovered a deep small *femoral hernia*. I advised the man to go into the hospital at once, which he consented to, and I drove off at once in a cab. I followed him to the hospital, and as his symptoms were *very urgent*, and signs of collapse setting in, I *cut down* at once on the tumour, which proved to be a portion of *very deeply congested intestine*. The stricture was divided, and the hernia reduced, but notwithstanding all the care we could bestow, the *man sank rapidly*.

Cases in which two Hernias existed.

CASE XIII.—I was summoned to the hospital in 1884 by the house surgeon to see a case of strangulated hernia in a man, middle age. On arrival my attention was directed to a large *right oschocele*, which I carefully examined, and, though it was irreducible, I came to the conclusion it was not the cause of the urgent symptoms of strangulation present. On examining his *left femoral ring*, I discovered a very small, hard tumour, which I cut down on, and found the *gut gangrenous*. There was no difficulty in the operation. The stricture was freed. The man never rallied. The *post-mortem* examination showed extensive *inflammation and gangrene*. The right inguinal tumour presented nothing abnormal beyond adhesions. Taxis had been employed on the wrong side before I saw the patient.

I have operated in a femoral hernia in the *male* subject, and recollect in my first case that the question arose at the operating table—Was the case femoral or direct inguinal? *The position of the neck of the tumour, having Poupart's ligament above it and the pubic spine on the same horizontal level, and a little to the inside of it, at once settled the question.* In inguinal hernia the spine of the pubes is *behind* and *below* the tumour.

Femoral and Obturator Hernias.

CASE XIV.—On May 18th I assisted Mr. Fitzgibbon, who operated on a woman for the radical cure of left femoral hernia. When the sac was separated and ligatured, I observed a second hernia beneath the femoral, which proved to be an obturator hernia. The tumour was reduced easily.

Case of Ventral Hernia.

CASE XV.—I was summoned suddenly to see a lady in the vicinity of Dublin, who was seized with very urgent symptoms. On arriving at the house, her husband was much alarmed at the vomiting, colicky pain, and signs of collapse, which set in so unexpectedly, and he thought his wife was poisoned. I suspected hernia, and examined the usual regions. Not finding any tumour I stripped the abdomen, and discovered a very small ventral hernia to the right of the umbilicus. I reduced the tumour, which *jumped back*, when all the symptoms subsided. A suitable compress was applied, and no further trouble occurred.

CASE XVI.—*Case of Femoral Hernia (Right) in a woman, middle-age; stricture unusually tight.*—Four years ago I was summoned, in the afternoon, to the hospital to a case of strangulated femoral hernia. The symptoms were urgent, and the tumour very tense. I decided on operating at once. The late Dr. Baxter, who happened to be at the hospital, was present at the operation. I got the blade of a Sir A. Cooper hernia knife under the stricture, and on endeavouring to cut it the knife snapped. A second knife of the same kind, which was on the tray, was introduced; it snapped also. I then used a very small knife, which divided the stricture; the intestine was returned, and the patient made a good recovery. (The knives had been thinned by repeated sharpenings.)

CASE XVII.—*Case of Strangulated (right) Femoral Hernia (entero-epiplocele); Herniotomy.*—Mrs. —, residing at Dundrum, Co.

Dublin, was attacked with symptoms of strangulated hernia, on December 20th, 1892.

She was visited by Dr. Usher, shortly after the urgent symptoms set in, and he tried taxis and administered an enema by means of a long tube, and gave gr. doses of opium pill every hour. The symptoms continuing, I was sent for in consultation by Dr. Usher, and, at 7 p.m., we examined the case together.

History.—Seven years previously, in lifting a heavy weight in her house, a "lump" appeared in right groin, it was always reducible and she wore a truss for a time, but latterly gave it up. The hernia, which at first was small, gradually increased, until it got as large as a goose-egg, and though portion of the tumour was reducible, a considerable swelling was always present—she suffered from constipation, flatulence, and colicky pains. On the 21st of December she was seized with pain in the tumour; colicky pain in region of navel, and vomiting—first, the contents of the stomach and, afterwards, a greenish fluid; she had hiccough.

Appearance of Tumour.—On examining the groin, I observed a femoral hernia as large as a goose-egg, and somewhat of same shape, long axis, parallel with, but extending below, Poupart's ligament; the outer portion of the tumour was soft and resilient; the inner portion more *solid* to the touch. The vomiting occurred again during our examination, and the patient, whose face presented the hernial aspect, complained of the abdominal pain and exhaustion. Pulse, rapid.

Friday, December 22nd.—Had a good deal of sleep; discharge by bowels after examination; pulse, 92; tongue, moist, slightly furred; abdomen, *soft*, free from tympany, and pain gone; no vomiting. Taking soda-water with milk; one gr. of opium every hour; beef tea and chicken broth, mixed. We agreed, if diarrhoea came on, to stop the opium. From this date the patient made a good recovery.

I operated on a case of strangulated femoral hernia, to which I was called by my friend Dr. Murphy of Harcourt-street. Anæsthetic administered by Dr. Ashe; *stricture very tight*; gut deeply congested; recovery.

I was summoned by my brother, Dr. Richard Croly, to Wicklow, to a case of strangulated right scrotal hernia, in a gentleman of middle-age. Herniotomy performed. The symptoms were very urgent. Chloroform was given by the late Dr. M'Dowell, of Baltinglass; taxis failed; the

hernia was *congenital*. The patient made a rapid recovery.

CASE XVIII.—Mrs. T., aged sixty, Rathmines. First noticed the hernia in January, 1869. Her attention was called to the tumour at that time by a violent pain in the region of it. The pain and tumour disappeared simultaneously in two or three hours. She had been suffering from partial *retention of urine* for some time previously, and thought the tumour in the groin was caused by the bladder; although she obtained medical advice concerning the retention, she did not mention the tumour, and has never worn a truss. From that time until November, in the same year, she was free from pain, and the tumour either did not again appear, or was so small as to escape her notice. In that month she had another attack of pain, again noticed the tumour, and got rid of both in the same manner as before.

Since November, 1869, she has been troubled with similar attacks, at long intervals, three or four times. On the evening of November 15th, 1870, she was seized with the same pain she had formerly experienced, and again noticed the tumour. She took a tumbler of hot wine and went to bed, but got no relief. About 10 o'clock that night, in addition to the pain, she had severe vomiting.

On the 17th she consulted a practitioner in the neighbourhood, who prescribed calomel and opium and an enema of turpentine. The latter brought away a small quantity of *fecal matter* and gave some temporary relief to the pain, but the vomiting continued. Symptoms continuing, she consulted Dr. Brady, who detected the hernia. She did not know that it was the cause of her illness, and did not mention the presence of it to either of her medical attendants. On the following day (November 20th) I was sent for, and operated.

There was nothing peculiar in operation except *extreme tightness of the stricture*; *sac very thin and difficult to recognise*; *no fluid in it*; *no omentum*.

23rd Nov.—Bowels moved naturally, patient taking opium regularly.

27th.—Wound all but healed.

(To be continued.)

ART. II.—A Case of Argyria, with a Note on the Therapeutic Value of Silver Nitrate.* BY H. C. TWEEDY, M.D.; Fellow and Censor, Royal College of Physicians; Physician to Madam Steevens' Hospital.

THE staining of the tissues from the prolonged use of nitrate of silver, which was some years ago observed with tolerable frequency, has of late become comparatively rare, owing to the gradual decline in the use of this drug for the treatment of nervous diseases. The case, therefore, which is now detailed seems, for that and for other reasons, to possess sufficient interest to justify its being recorded.

Sergeant L., a pensioner, aged seventy-seven years, came for the first time under my notice so long ago as 1871. He was admitted to Madam Steevens' Hospital in the October of that year, under the care of Dr. Grimshaw, whose resident pupil I then was.

He was suffering from well-marked ataxic symptoms, which had been gradually increasing for some months—pronounced girdle pains, lightning pains, characteristic gait, throwing out the feet when walking, with the toes pointed upward, and bringing the heel first to the ground each step he took. He required the assistance of a stick in walking, complained of weakness in his legs, and a sensation of numbness so that he could scarcely feel the ground with his feet. When asked to close his eyes when standing erect, he began to totter immediately, and on turning rapidly when walking he would have at once fallen had he not been supported. In short, the case was diagnosticated as one of locomotor ataxy, and he was ordered $\frac{1}{2}$ gr. of nitrate of silver, three times daily, in a pill. The pills were continued for a fortnight, discontinued for a week, and then resumed, and he was kept on the same treatment during the six weeks he remained in hospital. Being obliged to leave suddenly, he took the prescription with him and continued the use of the nitrate of silver with tolerable regularity for two years. He then reappeared in the hospital (in 1873), his condition being markedly improved. The same drug was continued, at

* Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, December 14, 1894.

intervals, till 1876, when he was again admitted to hospital, with some return of the ataxic symptoms. He was then treated with potassium iodide for a short time, but with such unfavourable results that the nitrate of silver was again reverted to with success.

I lost sight of him for six years, when he again turned up in Steeves' Hospital in 1882 (this time to consult me for eczema of his legs). All the ataxic symptoms had now disappeared, but he stated that he had continued to suffer occasionally from pains in the back and loins, which came on acutely from time to time, accompanied by sickness of the stomach, and that on each occasion he had obtained relief from a course of the nitrate of silver pills.

I now noticed for the first time the change in his complexion, his face being of a dull slate-blue colour, as were also his hands and to a lesser degree the rest of his body, but his general health was excellent, and in 1883 I had the honour of exhibiting him before the Academy of Medicine as an example of the beneficial effects produced by nitrate of silver on a case of what had been reasonably supposed to be locomotor ataxy.

At the close of 1894 he came once again to show himself to me, and, except for the inevitable signs of old age, there is little to add to what has been said regarding him. He has been taking the nitrate of silver occasionally now for twenty-three years, and, as far as I can calculate from his statements on the subject, I believe him to have taken more than 2,000 gr. of the drug at a very moderate computation. Of the exact time when the discoloration of the skin first commenced I have not been able to obtain any reliable information. It was not noticeable when I saw him in 1876, and it was well-marked in 1882, but when it commenced he is unable to tell me.

Much has been written on the subject of argyria since the condition was first described by Zöllner* at the end of the last century. I shall not weary you with historical details, but some recent investigators have brought out points of interest, which I may be permitted to lay before you.

This condition, like lead poisoning, is said to occur in

* *Reise durch Pommern, nach der Insel, Rügen.* Berlin, 1797, p. 169.

those engaged in working at silver, and, like lead poisoning, it is occasionally followed by symmetrical extensor palsy. A case of dropped wrist and argyria combined, is detailed by Dr. Gowers in the *Brit. Med. Journ.* of December 1st, 1894. In this case the silver had been used continuously for more than a year to relieve gastric pain.

But it is beyond question that the continuous use of silver salts (and more especially Ag. NO₃), whether externally or internally, is liable to give rise to not only a local but a general argyria.

Duguet^a mentions a case in which this condition followed repeated cauterisations of the throat with silver nitrate; and most of us are familiar with the appearance of a gentleman occasionally seen in the streets of Dublin in whom the condition is said to have arisen from a similar cause.

Hutchinson^b details two cases of general argyria, in which the history showed that the drug had *only* been applied externally—in the one case locally to syphilitic sores, and in the other case to the mouth and throat. The latter case was a very remarkable one, inasmuch as the staining only appeared after the lapse of eight years.

Crocker^c alludes to a similar case, in which the blueness did not develop for many years after the topical applications had ceased to be made; and Lombard^d mentioned a case in which after a six years' pause in the administration of the drug, a staining of the skin followed its resumption for six months. Numerous other cases might be quoted where the condition followed the application of the drug to the surface of wounds and to its internal use for nervous and gastric affections.

All these cases serve to emphasise the fact that silver salts, if introduced into the body, are eliminated from it but to a very slight extent, if at all. The quantity of silver requisite to produce argyria must be subject to considerable variation. Krahmer^e says that the smallest quantity that

^a Gazette M^éd. de Paris, 1874, No. 28, p. 351.

^b Ann. Surg., Philadelphia, April, 1892.

^c Diseases of the Skin. 2nd edition, 1893, p. 406.

^d Bus. Magazin, N. F. Berlin, 1888, XVI, p. 145.

^e Das Silber als Arzneimittel, Halle, 1845, p. 153.

has produced it is 450 grains, but in Riemer's⁶ case 1,740 grains had been taken during a whole year, before any staining of the skin appeared.

An acute form of the disease has been recently described by Olshausen,⁷ who gives an account of a case in which a large open wound had been treated with a 1 per cent. solution of nitrate of silver, when the mucous membrane of the cheeks, gums, and the under surface of the tongue became stained of a blue-black colour, and eight days later the patient died of exhaustion from diarrhoea.

To Fraschetti,⁸ and to Robert of Dorpat⁹ we are indebted for the most recent information regarding the experimental investigations in relation to argyria.

The former draws the following conclusions:—

1. All silver preparations give rise to argyria, even to a local deposit, upon their external employment.
2. Reduction of the silver salts administered takes place in the stomach and afterwards in the intestinal canal, tending to the separation of the metal.
3. Silver finds its way into the organs through the lymphatics.
4. It is not eliminated by the urinary organs or by the intestines.
5. It does not, as a rule, produce any material effect upon the health.

Robert practically endorses Fraschetti's conclusions, but he further states that the silver, if injected directly into the blood, becomes incorporated with the white corpuscles, forming also with the serum of the blood a complex albumen product, and that it then undergoes reduction to metallic silver or oxide of silver, appearing in the form of black or brown spots, staining the borders of the gums, the last phalanx of the fingers. Later on the deposit appears in the skin of the face and of the body, being most apparent in the portions most exposed. Similar deposits are found in the liver, kidneys, spleen, and small intestine. No deposit, according

⁶ Archiv. der Heilkunde. Leipzig, 1875, XVI., p. 296-335.

⁷ Deut. Med. Woch., 1893, No. 47.

⁸ Deutsche, Med. Zeit. August 22, 1893.

⁹ Archiv. f. Dermatologie and Syph., 1893, Heft V.

to this author, takes place in the epithelium cells of any organ, in the muscles, in the nerves, or in the laminae of the bones, but the staining will be found chiefly in the connective tissue, especially in the choroid plexus, in the tunica propria of the sebaceous glands, the sweat glands, and the mucous glands, &c.

To my friend, Dr. Earl, I am indebted for some sections made by him of the portion of skin taken from the lower eyelid. There can be seen the black and brown granules deposited in the connective tissue, and more especially round the sheaths of the hair follicles, but no deposit in the epithelium cells.

In conclusion, I think, the case before us furnishes us with certain lessons:—

1. That no precautions can guard against the staining that follows the prolonged use of nitrate of silver. In the present instance the possible occurrence of argyria was foreseen from the first, and with a view to guarding against it, the use of the drug was regularly discontinued for a week, after having been used for a fortnight, but without avail, as may be seen.
2. That the health of the patient has not suffered in the least from the use of the drug during the long series of years since 1871.

I may here remark that all attempts to effect decolorisation in this affection have proved practically useless. Some years ago Gaudell^{*} advocated large doses of potassium iodide combined with mercurial vapour baths for this object, and stated that in the case of two syphilitic patients with whom the treatment was persistently carried out for several months, decolorisation was eventually effected. The utility of this method seems to be exceedingly doubtful, and, as far as I am aware, no other cases have been recorded in which the treatment has proved successful.

But to my mind the most important lesson connected with our case has been the marked beneficial effect, explain it as we may, produced by silver nitrate upon a patient who presented most, if not all, the prominent symptoms of locomotor ataxy. This is not merely coincidental. The case

has now been under observation at intervals for more than 23 years. The symptoms that have been detailed gradually disappeared while he was using nitrate of silver. He ceased the use of the drug, and after a time some return of the symptoms took place, vanishing a second time, however, as he resumed his former prescription. Once again the trouble reappeared, and fearing he was taking too much nitrate of silver, the treatment was changed to potassium iodide, but only with injurious effect. The old remedy was once more resumed, and again with happy results. It is now more than ten years since he showed any definite symptoms of ataxia. He has none whatever at the present time, and I think it may be fairly conceded that the discoloration of his skin has not been an extravagant price to pay for the benefits he has derived from the use of a drug, which, if it were formerly used incautiously, and with too little discrimination, has of late years been relegated to a retirement, from which it might occasionally be recalled with advantage to the patient as well as credit to the physician.

ART. III.—Report on One Hundred Consecutive Operations for Senile Cataract, complicated and uncomplicated.* By J. B. STORY, M.B., F.R.C.S., Surgeon to St. Mark's Ophthalmic Hospital; Professor of Ophthalmic and Aural Surgery, Royal College of Surgeons.

THIS communication is based on the notes taken of a series of one hundred consecutive cases of cataract extraction, which were under my care in St. Mark's Ophthalmic Hospital during the two years ending October, 1893. It includes all the cases, complicated or uncomplicated, which were operated on by myself, as well as those under my care which were operated on by my colleagues, Dr. Odevaine and Dr. Montgomery, and my brother, Dr. W. G. Story, to whom I am indebted for the collection of the statistics. Traumatic cataracts and juvenile cataracts are not included.

* Read before the Section of Surgery in the Royal Academy of Medicine in Ireland, on Friday, January 4, 1895.

The vision obtained in the whole series of cases was:—

$V = \frac{1}{2}$ in 1 case.	$V = \frac{1}{10}$ in 13 cases.
$V = \frac{1}{3}$ in 8 cases.	No note but "result excellent" in 3 cases.
$V = \frac{1}{5}$ in 12 cases.	
$V = \frac{1}{6}$ in 20 cases.	$V =$ fingers at 6 m. in 5 cases.
$V = \frac{1}{8}$ in 18 cases.	$V =$ pl. in 4 cases.
$V = \frac{1}{10}$ in 15 cases.	$V =$ O in 1 case.

According to the customary method of reckoning, the results were successful in 95 out of 100 operations, and of these 87 were complete, and 8 partial successes. The latter, however, should, for reasons which I will adduce later, be regarded as complete successes.

Five failures are recorded, but of these three were due to causes in no wise connected with the operation, so that the total result of the series is that only two operations, of a series of one hundred, failed to restore useful sight, when the possibility of doing so existed.

Of the eight cases of partial success, three are only excluded from the list of complete successes by the omission of the then house surgeon to record their visual acuity. They left hospital well pleased with the sight regained, but no note was taken except "result excellent." I have written to these patients, but have not been able to find them. (Cases 8, 48, 81).

The other five cases of partial success could all count fingers at 6 m., and although there were optical defects present in some of them to account for vision not being perfect, it is probable that they were prevented from attaining $V = \frac{1}{10}$ more by mental than physical causes. An educated person who counts fingers at 6 m. can, I find, always read Snellen D=60 at the same distance.

In these five cases of partial success, vision was rendered imperfect by pre-existing corneal nebula in Case 12, by an opaque capsule susceptible of being divided and having vision thereby improved in Case 75, by iritis with synechia in Case 66, by severe plastic iritis with hypopyon in Case 48. (This patient's eye was perfect on the tenth day, when he was allowed to get up. He utilised the occasion to walk out of hospital and give himself a treat, with the

result that he had iritis next day, with hypopyon). Case 79 was 80 years old, illiterate and partially insane. All these five counted fingers at 6 m., and with reasonable intelligence could have read Snellen D=60 at the same distance.

In three out of the five failures the subsequent defective sight was not in any wise directly connected with the operation.

Case 15 was found to have the vitreous full of cobweb-like-opacities, completely obscuring the fundus.

Case 44 had extensive detachment of the retina, which was not due to loss of vitreous, for none was lost at the operation, but, perhaps, may have occurred from the lowering of intra-ocular pressure at the operation. This patient's other eye was absolutely blind, with cataract and suspected detachment of retina.

Case 92 was probably one of congenital lamellar cataract, with nystagmus, and no doubt defective retinal function. It would not be included in the series were it not that the patient did not seek advice till the age of 45, and that I consequently performed an ordinary combined operation on the cataract.

It may be asked why these three cases are included in the series at all—why were not three operations performed subsequently on other patients added on to make up the one hundred cases reported in the communication?

One reason for including these three cases is that the complications which interfered with good vision were not all diagnosticated until after the operations had been performed, although in two of the cases they certainly existed previously, and, I think, in any statistics of cataract operations only those cases should be recorded as complicated where the complication is definitely diagnosticated and noted before the operation is performed.

Another and, in this instance, a more cogent reason is that the series includes every cataract operated on, except those which were traumatic and the juvenile cataracts which were operated on by keratonyxis usually followed by linear extraction.

It will be seen that if these three cases had been omitted,

the vision recorded properly in three cases, and reasonable intelligence manifested by five other uneducated patients, the percentage of good results would have been raised to the high figure of 98 per cent—a remarkable figure when it is remembered that all cases, complicated and uncomplicated, are included. In fact, useful sight was obtained in every case when the possibility of getting it existed, except in two cases, which two were lost from wound-infection.

Two failures are recorded due to wound-infection.

Case 60 had suffered recently from granular conjunctivitis, but the conjunctival disease was considered cured, and a simple extraction was done a week after admission. Next morning the eye looked all right, free iris, circular pupil. But an acute plastic panophthalmitis came on, and the contents of the globe had finally to be eviscerated. The operation on the second eye was not done till after a preliminary iridectomy, and I had the good fortune to obtain a perfect success— $V = \frac{1}{2}$ in an illiterate patient.

In this case the wound-infection, no doubt, occurred at the time of the operation; in the second case (98) it very probably occurred subsequently, for the patient was detected applying holy water to the eye on the day when the wound-infection was first noticed. It is probable that she had used the holy water previously without being detected, and, unfortunately, we have no authority for including among the virtues of holy water the cardinal surgical virtue of asepsis. The inflammation in this case was plastic or fibrinous rather than suppurative, and annular posterior synechia resulted.

The accidents which occurred during the operations were loss of vitreous four times (Cases 14, 32, 77, and 78). In one of these (32) the lens was luxated, as occurred also in another case (11), in which extraction was done without loss of vitreous.

The iris was wounded by the knife in one case (24), in which also, owing to the unruliness of the patient, the cut-edges of the iris could not be reposed.

In two other cases the reposition of the iris was

imperfect—one (54) a simple extraction, and one (82) a combined operation.

In one case (41) the incision was too small, and had to be enlarged by means of a scissors.

Cortex is noted as being left in the eye in only three cases (11, 23, and 69). In this respect I am convinced the notes are imperfect.

As regards healing of the wound—distinct wound-infection occurred in four cases (Cases 30, 60, 66, and 98). Two of these eyes were saved with a visual acuity in Case 30 of $\frac{6}{15}$, in Case 66 of fingers at 6 m., and the other two are included among the five failures, being the only two failures where success might have been attained.

Iritis is noted as occurring in eleven cases (Nos. 19, 23, 36, 40, 62, 65, 66, 89, 92, 93, 94).

Synechia anterior is noted also in eleven cases (4, 24, 56, 57, 58, 59, 77, 80, 82, 96, 97), of which seven were cases of simple extraction and four cases of extraction combined with iridectomy.

Cystoid cicatrix occurred in two cases (51 and 54), one a combined and one a simple extraction.

A secondary operation was done in nine cases (Nos. 6, 12, 23, 30, 53, 69, 92, 94, 100), and is noted as *necessary* in two other cases (14 and 75), but a higher visual acuity could have been obtained in many other cases by means of a secondary operation, if it had been practicable to keep the patient under treatment for that purpose. In two cases secondary glaucoma came on, one a combined operation (No. 30), and one a simple (No. 100).

The complications observed before operation were chronic conjunctivitis in twenty cases (1, 2, 15, 30, 41, 43, 47, 49, 52, 60, 61, 63, 71, 72, 75, 79, 80, 81, 91, 93), two of which were cases of pronounced trachoma. Most of these cases had to be treated for several weeks in hospital before an operation could be risked. Some were two or three months under treatment before the operation was done, and several had to have operations performed for malposition of lids before the cataract extraction could be attempted.

Several cases had corneal nebula—one (No. 12) to such an extent as to interfere greatly with vision.

In two cases albuminuria was present (Nos. 20 and 21). Two eyes of the same person. Both did well.

Two of the cataracts were Morgagnian (Nos. 33 and 59).

Marginal blepharitis was present in one case (No. 37):

The lens was dislocated in one case (No. 78), and the power of projection was bad in another (No. 31). Both did well.

The section adopted in all the operations was some modification of the peripheral flap as proposed by de Wecker, and first performed in this country, I believe, by myself in May, 1879. The method, when I advocated it in Dublin in the following year, was not very favourably received by my ophthalmological friends, but since that time I am pleased to observe that they have almost universally adopted it themselves, so that the arguments I then brought forward in its support do not now need repetition.

When I first began to perform it I aimed at making a small conjunctival flap also, but subsequently I gave up the conjunctival flap, and it was not made in any of the cases of the present series.

The conjunctival flap, however, affords such important advantages in an early sealing-up of the incision that I believe I have not done wisely in altogether discarding it, and I am at present making the flap in nearly every operation I perform.

Ophthalmic surgeons are at the present time divided into two camps, a large body of the profession advocating the merits of the simple operation of cataract extraction without iridectomy, and another, perhaps even larger, body of operators performing the combined operation alone.

This series of cases contains 42 simple operations, 46 combined operations, and 12 operations for cataract after preliminary iridectomy.

The simple operation resulted in three failures, two of which were due to wound-infection (Nos. 60 and 98), and one to opacities in the vitreous. None of the losses were consequently due to the special type of operation, but

were the effects of accidental causes common to all operations.

One failure occurred after a preliminary iridectomy; it was due to detachment of the retina, and might have occurred after any other method of operating (No. 44).

One failure occurred after a combined extraction. It was probably the result of congenital defect in visual power (No. 92), and was not in any wise due to the operation.

As far as the percentage of successes is concerned, the results are slightly better in the simple extractions than in those where iridectomy was done. There were in all 58 operations with iridectomy, of which 50 were successes, and 42 simple operations, of which 37 were successes. This gives 86 per cent. of successes in the operation with iridectomy, and 90 per cent. of successes in simple operations.

The average acuity of vision, however, is much higher in the successful simple cases than in the operations with iridectomy. Of the former one case had $V = \frac{1}{2}$, and six $V = \frac{1}{3}$, while only two of the latter reached $\frac{1}{3}$. Briefly, of the simple extractions 23 cases (54 per cent.) had $V = \frac{1}{3}$ and upwards, while of the extractions with iridectomy only 18 cases (31 per cent.) obtained so high a visual acuity.

It may be said that the higher average visual acuity in the simple extractions is due to selection of the cases, and there may be some modicum of truth in the statement, but I am inclined to attribute it rather to the more satisfactory healing of the operation wound, and the healthier condition of the eye-ball afterwards. The reaction I have observed after a simple extraction is usually less than after a combined operation.

The great bug-bear of the simple operation is prolapse of the iris. This occurred five times (Nos. 33, 38, 42, 54, 100). All the cases were successful; visual acuity being $\frac{1}{5}$, $\frac{1}{3}$, $\frac{1}{2}$, $\frac{1}{2}$, and $\frac{1}{3}$.

The treatment adopted was excision and cauterisation, after which iodoform powder was dusted on the wound. In one of these cases a small cystoid cicatrix resulted, and in another secondary glaucoma, which was cured by sclerotomy with incision through the sphincter of the iris.

The most that can be brought forward against the simple extraction from an examination of the present series of operations is that the convalescence may have been unduly protracted in about 12 per cent. of the cases, against which it may be asserted that the convalescence was more rapid in the remaining 88 per cent. of the operations, and the visual acuity obtained much higher.

It is obvious that these statistics are not brought forward with the object of advocating any particular method of performing the operation of cataract extraction. The only conclusion that can be drawn from them is that success can be obtained by either of the two rival methods, and there does not seem much to choose between the two. This conclusion is really only what anyone who has glanced at the literature of the subject would expect. Operators of immense experience in all quarters of the globe are loud in praises of one or the other method, and I do not think the time has yet arrived when we can come to a final conclusion as to which is the better.

The antiseptic precautions adopted in all the cases were the following:—

The eye to be operated on is kept bandaged with boric acid lotion dressing for twenty-four hours before operating, and the operation is not performed so long as any mucus is present on the dressings.

All the instruments are kept for five minutes in boiling water, with the exception of the knives, which are sterilised by rubbing with a mixture of equal parts ether and absolute alcohol.

The collyria employed are made up with boiled boric acid solution, or with 1 to 5,000 corrosive sublimate solution.

The dressings are made with absorbent wool soaked in boiling boric acid solution.

At the time of the operation the patient's face, eye-brows and lids are washed with creolin, and boiled boric acid lotion is used to wash out the conjunctival sac, both before and during the operation.

That in spite of these precautions, four cases of wound-infection, two of which ended in loss of sight, should have

occurred in 100 cases is much to be regretted, but when I consider the material I have to work upon, I am only surprised that I have not had more fatalities.

The larger number of the patients who seek relief at St. Mark's Ophthalmic Hospital are drawn from the poorest classes in the community, and the difficulties of obtaining a healthy conjunctiva before performing an operation are extreme. We send many patients home to have their ophthalmia cured, and when they return months afterwards the ophthalmia is as bad as ever. If we are not to give these patients up entirely and leave them in hopeless blindness, there is nothing for it but to treat the conjunctiva as skilfully and energetically as we can, and when we get it at all in a fairly healthy state run the risks of a cataract extraction.

TABLE of 100 Consecutive Operations for Senile Cataract.

L = Compound Operation. S. = Simple Extraction.

No.	No of Card	Age	Side	Vision of other Eye	Complications noted before Operation	Operation
1	824	75	L	Fing. 4 th	Conjts. chron.; strab. interna	P. I., and in 3 weeks 3 mm.
2	888 F	65	L	H. R.	Conjts. chron.; pterygium	—
3	896	74	R	—	—	3 mm. flap
4	409	62	L	1/2	P. I. (4 months), immature	—
5	412 F	30	R	5 th	—	—
6	419 F	74	R	—	—	—
7	446	60	L	4 th	—	—
8	449 F	50	L	—	—	—
9	458 F	30	L	1/2	Soft white cat.	—
10	459 F	51	L	1/2	—	—
11	461	63	L	1/2	Cat. immatura	Luxatio lentis; spoon
12	462	58	L	1/2	Nebula cornes cent.	—
13	463	57	L	Fing.	—	—
14	524	50	R	1/2?	Probably traumatic origin	Escape of fluid vitreous
15	620	58	L	1/2	Conjts. chron. immatura	—
16	583	72	R	1/2	Pupil acted sluggishly	Very small iridectomy
17	566 F	50	R	H. R.	—	Morgagnian
18	566 F	50	L	1/2 +	—	Eserin
19	547	75	L	P. L.	—	Morgagnian
20	530	50	R	0.5 th	Albuminuria; central ulcer	—
21	530	50	L	P. L.	Albuminuria; strab. ext.	—
22	541	49	R	1/2	—	—
23	585	71	L	3 th	Immature	—
24	508 F	50	R	H. R.	—	Unruly patient; iris cut by knife; reposition afterwards impossible; patient's own efforts expelled lens!
25	508 F	50	L	1/2	—	—
26	500 F	66	R	P. L.	—	—

Extract, from September, 1891, to April, 1893.

P. I. = Preliminary Iridectomy. F. = Female.

After Treatment and Course	No. of Days after Tested	Correcting Lens	V for Distance	V Near
Did well	18	10	1/8	
Did very well	24	10	1/8	
Pupil did not dilate well	14	9	1/8	
Syn. ant. and cicatrix rather bulging in centre; a year later, V = 1/8; but right blind with keratitis. Punct. and sec. glaucoma	38	11	1/8 (Ast. = 8 D)	
Did well	—	12	1/8	
After 4 days, chemosis T + 1, and deep ant. ch., heratitis bulloosa (needled Jan. '93.)	—	18 and 2 Cy.	1/8 ??	Sn. 0.5 Jg. 1
Some capsule left in above	—	10	1/8	
12 days after, "all excellent"	—	Result	excellent	
—	—	—	1/8 ??	Jg. 1
—	1 year	10	1/8 ???	
Cortex left in: patient could not count fingers	30	11	1/8	
After 40 days a needling was done; result perfect, but nebula	52	10	Fing. 6"	
—	20	10	1/8	
Did well, but dense capsule spoiled V.	—	10	1/8	
Surgically successful, but result spoiled by staph. post and opacities of vitreous	—	—	P. L.	
—	19	10	1/8	
—	42	10	1/8	
Tested too soon for good result	11	10	1/8	
Healed slowly with syn. post	26	10	1/8	
Did well	—	12	1/8	
Did well	—	10 and 2 Cy.	1/8	
Needling after 35 days; band of capsule? across pupil	—	11	1/8	Jg. 4
Had severe iritis; cortex was clear and overlooked at operation	—	10	1/8	
Syn. ant. at both ends of wound, as iris could not be well reposed	—	12	1/8	Jg. 2
Extraction 3 weeks later; healed without complications	22	12	1/8	Jg. 1
—	38	10	1/8 ?	

One Hundred Operations for Senile Cataract.

TABLE of 100 Consecutive Operations for Senile

No.	No. of Card	Age	Side	Vision of other Eye	Complications noted before Operation	Operation	I Iridectomy
27	500 F	66	L	1/2	—	—	I.
28	18 F	80	L	2	—	Eserin . . .	S.
29	19	88	R	2	—	Eserin . . .	S.
30	82 F	60	L	3 ^m	Conjritis. chron. and nebula corn. Proj. bad below .	—	I.
31	49 F	62	L	1/2 +	Proj. bad below .	—	I.
32	81 F	64	L	P. L.	Ant. ch. very shallow .	Lens luxated; taken out with spoon	I.
33	81 F	64	R	P. L.	Morgagnian; pupil does not act	Eserin . . .	S.
34	95 F	42	L	Fing.	—	Eserin . . .	S.
35	115	56	R	2 ^m	—	Eserin . . .	S.
36	126	64	L	1/2 +	—	—	I.
37	135	57	—	—	M. B. and strabis. extern.	Eserin . . .	S.
38	170 F	48	R	H. R.	—	Pupil not round. Eserin	S.
39	170 F	48	L	—	Prel. iridectomy (4 years)	—	P.I.
40	187	60	L	3 ^m	—	—	I.
41	196	74	L	2 +	Conjitis. chron. ; proj. poor	Incision enlarged, scissors	I.
42	214	50	R	4 ^m	—	Eserin . . .	S.
43	234 F	60	R	Fing.	Conjitis. chron. (treated) proj. poor	Nucleus large. Eserin	S.
44	258 F	82	L	O	Cat. immatura; P. I.	In 8 weeks 3 mm. flap	P.I.
45	805 F	45	L	H. R.	Cat. hyperm. calc.; pupil acts badly	—	I.
46	805 F	45	R	1/2 +	—	—	I.
47	810	66	L	1/2 ??	Conjitis. chron. .	—	I.
48	820	64	L	1-5 ^m	P. I. (40 days) .	—	P.I.
49	832	64	R	2 +	Conjitis. chronica slight .	—	I.
50	834	52	L	1/2	P. I. . .	In 6 months 3 mm. flap	P.I.
51	846 F	60	R	4 ^m	—	Incision too peripheral	I.
52	866	50	R	4 ^m	Conjitis. slight and strab. extern.	Eserin . . .	S.
53	867	55	R	1/2	—	Eserin . . .	S.
54	879 F	60	L	—	No notes . .	Iris badly reposed .	S.

Extract from September, 1891, to April, 1893—con.

After Treatment and Course	No. of Days after tested	Correcting Lens	V for Distance	V Near
Some opacity in pupil	19	10	1/2	
Atropin	15	10	1/2	Jg. 1
Atropin	38	10	1/2?	Jg. 1
Iris with wound infiltration; 3 months later got glaucoma, and had iridectomy done	75	13	1/2?	
	20	10	1/2?	
In capsule, fluid vitreous lost; cataract Morgagnian	—	10	1/2	
Next day prolapse of iris and vitreous, abscised with loss of fluid vitreous	14	10	1/2?	
Atropin	30	9	1/2???	
Atropin; illiterate patient, hard to test	1 year	+3	1/2???	
Iritis; leeches applied; chemosis	25	10	1/2?	
Atropin	27	11	1/2??	
Next day prolapse of iris; abscised	29	10	1/2	
Atropin	12	11	1/2	
Iritis and chemosis	30	10	1/2	
	—	10	1/2?	
Next day prolapse of iris; left alone for some days, then cauterised	37	11	1/2	
Eye healed well	—	—	—	
Healed well, but retina found detached.	12	—	H. R.	
	—	10	1/2	
	—	10	1/2	
Slough of vitreous from wound after 5 days; it was twice removed	18	8	1/2	
After 9 days, "perfect;" patient went out without leave and got plastic iritis with hypopyon	—	10	Fing. 6=	
	—	11	1/2	
Illiterate and hard to test	38	10	1/2	
Bulging wound—i.e., cystoid cicatrix, which flattened	—	11	1/2	
	25	12	1/2?	Jg. 1
Atropin; after 11 days a needling	19	10	1/2?	Jg. 1
Iris prolapsed and afterwards cauterised 4 times; small cystoid cicatrix resulted	48	9	1/2???	Jg. 1

One Hundred Operations for Senile Cataract.

TABLE of 100 Consecutive Operations for Senile

No.	No. of Card	Age	Side	Vision of other Eye	Complications noted before Operation	Operation	Iridectomy
55	884	49	L	H. R.	—	Eserin . . .	S.
56	884	49	R	H. R.	—	Incision more central. Eserin	S.
57	404	F 46	R	1/2	Cat. immature .	—	S.
58	441	50	R	1/2	—	—	S.
59	458	F 44	L	1/2	Ant. ch. shallow .	Morgagnian. Eserin .	S.
60	489	48	L	4-5 ^m	Old granular conjtis.	—	S.
61	489	48	R	O	Old granular conjtis.	P. I.; after 30 days 3 mm.	P.I.
62	477	F 75	L	—	—	Eserin . . .	S.
63	487	F 55	L	Fing.	Slight chron. conjtis.	Eserin . . .	S.
64	487	F 55	R	1/2 +	—	Eserin . . .	S.
65	496	F 47	R	Fing.	Ant. ch. shallow .	Eserin . . .	S.
66	564	F 47	L	O	Cat. immat.; entropion spast.	—	P.I.
67	575	60	L	1/2 +	Immature; conjtis. chron.	—	S.
68	508	71	—	—	P. I. had been done .	—	P.I.
69	88	55	R	6 ^m	Dark brown; immature	—	I.
70	96	50	L	3 ^m	Immature; T — ?	Simple ext. attempted .	I.
71	108	70	R	3 ^m	Conjtis. chron. (3 weeks)	Large nucleus. Eserin	S.
72	111	F 68	L	5 ^m	Conjtis. chron. (11 days)	—	I.
73	113	F 60	R	1/2 +	—	—	I.
74	125	37	L	H. R.	—	Iridectomy . . .	I.
75	181	70	R	1/2	Conjtis. chronica .	Morgagnian . . .	I.
76	147	F 65	L	6 ^m	—	—	S.
77	160	56	L	1/2 +	Iridodonesis .	Simple ext. attempted; loss of vitreous, so spoon used	I.
78	163	F 59	L	1/2	Luxatio lentis .	Lens removed in capsule; spoon	S.
79	164	80	R	Fing.	Conjtis.; right, 30 years blind from injury	Large nucleus . . .	S.
80	176	68	R	1/2	Conjtis. chron. .	—	S.
81	204	55	L	P. L.	Conjtis. (49 days)	On 27th day an iridect.; 49th, ext.	P.I.
82	211	56	L	Fing.	—	Iris badly reposed .	I.

Extract, from September, 1891, to April, 1893—con.

After Treatment and Course	No. of Days after Tested	Correcting Lens	V for Distance	V Near
—	26	10	1/8	Jg. 1
Synechia anterior	20	10	1/8	Jg. 4
Synechia anterior; illiterate	22	10	1/8	
Synechia anterior	—	10	1/8	
Synechia anterior, slight	14	10	1/8	Jg. 4
Plastic iritis; panophthalmitis; evisceration	—	—	0	
Illiterate	19	10	1/8 ???	
Severe iritis; sloughing in wound	—	9 & 5 Cy.	= 1/8 ??	Jg. 1
Atropin, neither syn. ant. nor post	31	10	1/8 ???	Jg. 2
Atropin, neither syn. ant. nor post	17	10	1/8	Jg. 1
Pupil dilated badly to atropin owing to syn. post	14	10	1/8	Jg. 4
Bandage soon left off from entropion, hence iritis, syn. ant. and corneal opacity 8 days after operation, all well (Dublin)	—	4	Fing. 6 ^m	
—	—	11	1/8	Jg. 6
Wound did not heal quickly; cortex left in caused needling after 47 days	—	—	1/8	= Jg. 6
After 2 days = hyphema; did fairly well. Ast. = 3 D.	18	10	1/8	
Atropin; perfect in spite of conjitis. Ast. = 4 D.	18	18	1/8	Jg. 1
2 days hyphema	21	10	1/8	Jg. 4
4 days hyphema; did well	26	10	1/8 ?	Jg. 1
Illiterate	18	10	1/8	
During night pulled off bandage; capsule in pupil spoils V.	24	10	F. 5 ^m	
Syn. ant. which disappeared	—	11	1/8 ??	
Syn. ant.	18	8	1/8	
Vitreous lost at operation; did well, vitreous hazy on 18th day	18	10	1/8	
Wound fistulous for 17 days; illiterate and mad	28	10	F. 6 ^m	
Did well, flat syn. ant.; queer man	9	10	1/8 ?	
Did very well; illiterate. <i>Locum tenens</i> forgot V.	18	11	—	
Did well except for syn. ant.	—	10	1/8	Jg. 2

TABLE of 100 Consecutive Operations for Senile Cataract

No.	No. of Card	Age	Side	Vision of other Eye	Complications noted before Operation	Operation	II Iridectomy
83	237	44	L	1 ^m	—	—	S.
84	237	44	R	1 ^m ? +	—	Eserin	S.
85	285	77	R	Fing.	Pupil acts very sluggishly	—	I.
86	305	61	R	1 ^m	—	—	S.
87	358	70	L	1 ^m +	—	No eserin	S.
88	367	80	L	0 ^m	—	—	S.
89	172	F 63	L	1 ^m	—	3 mm. flap (F. O.)	L
90	187	M 80	L	P. L.	Ant. ch. very shallow	3 mm. flap 14 days after preliminary iridectomy	P.I.
91	179	M 58	R	P. L.	Marg. blepharitis and ectropium of lower lid. For the latter Snellen's suture, Kuhnt's excision and Argyll Robertson's operation were all done before it was cured. Chronic catarrhal conjunctivitis	3 months after admission	I.
92	278	F 45	L	Fing. 6 ^m	Nystagmus; probably shrunken, overripe lamellar cataract	3 mm. flap; lens had to be extracted in pieces by curette	I.
93	414	F 68	L	Fing.	Chronic conjunctivitis and entropium cauphoplasty; and two and one-half months after admission preliminary iridectomy	1 month later 3 mm. flap	P.L.
94	541	M 50	R	Fing.	—	3 mm. flap. Chlorine water	S.
95	125	M 37	R	H. R.	—	Ant. capsule removed by forceps	L
96	324	F 70	R	H. R.	—	3 mm. flap	S.
97	324	F 70	L	—	—	3 mm. flap	S.
98	327	F 70	R	H. R.	—	3 mm. flap	S.
99	876	M 56	R	1 ^m +	—	3 mm. flap	S.
100	886	M 73	R	P. L.	Purulent dacryocystitis in left eye	3 mm. flap, and extraction of lens intact; no vitreous was seen to escape	S.

Cutaret, from September, 1891, to April, 1893—con.

After Treatment and Course	No. of Days after Tested	Correcting Lens	V for Distance	V Near
Some striped keratitis noted	—	14	1/2?	
Atropin	—	14	1/2?	
Pupil dilated	15	10	1/2	
Pupil dilated badly and slowly to atropin, but no adhesions	30	10	1/2?	
Atropin	20	14	1/2	Jg. 4
Atropin. Illiterate	16	10	1/2	
Slight iritis	25	11	1/2	
(F. O.)	25	10	1/2	
No ant. ch. for 7 days	26	10	1/2	
Iritis and capsular opacity; needling	40	0	P. L.	
Iritis	21	10	1/2	
Slight iritis; capsule divided 3 months later	90	7	1/2	
(Montgomery)	30	10	1/2	
Slight flat syn. ant.	24	10	1/2 ???	
Slight flat syn. ant.	21	10 3-Cy.	1/2	
Chemosis next day and wound infiltration. A fibrinous exudation removed 3 times from wound annular syn. post found and sec. glauc. ; cut through capsule and iris. This patient was discovered putting holy-water in her eye the third day	—	—	Hand Reflex	
	14	+ 9 2 Cy.	1/2	
Reposition of iris perfect, but patient got ague, and large prolapse occurred. It was twice cauterised. Glaucoma occurred, relieved by incision through hernia into vitreous; glaucoma recurred and was cured by division of sphincter iridis.	—	+ 6 + 5.5 Cy.	1/2	

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Local Government Board. Reports and Papers on Cholera in England in 1893; with an Introduction by the Medical Officer of the Local Government Board. London: Eyre & Spottiswoode. 1894. 8vo. Pp. XL.-242.

THE history of cholera in England in 1893 is embodied in a series of Reports, appended to the very able and interesting "Introduction" by Dr. R. Thorne Thorpe, the Medical Officer of the English Local Government Board. The first of these is a general Report on the prevalence of cholera in England and Wales as a whole in 1893 by Dr. F. W. Barry. Then follow a number of Reports on special outbreaks of the disease, which called for local investigation by the Medical Inspectors of the Board, and the last Report (Appendix B.) contains an elaborate account of the bacteriological studies by Dr. Klein of certain material derived from individual cases of disease which was submitted to the Local Government Board for examination.

All these Reports are summarised in Dr. Thorne's "Introduction," which we shall lay under contribution for the benefit of those of our readers who are interested in Preventive Medicine.

The Medical Officer points out that if his surmise as to an early importation of cholera into England in 1893 failed to be fully realised, the failure was probably more apparent than real. He anticipated that such importation might possibly be obscured by the arrival of the disease in a phase when its true nature would not admit of early recognition. This actually did happen. "The story of cholera in the ports at the Humber mouth is, in truth, a story of cholera, the first beginnings of which were clouded and obscured by attacks first regarded as diarrhoea, which was next looked upon with grave suspicion and called by such names as

choleraic diarrhoea and cholera nostras, and was finally recognised to be true cholera." *

The first definite importation of cholera into England in 1893 took place in the Tyne port, where a vessel, hailing from Nantes, arrived on June 25th with the body of a man who had died a few hours before from that disease. No further importation was recognised until July 18th, when the Cardiff Port Authority found it necessary to isolate two convalescing cases which had arrived by ship from Marseilles. Two days after, a case of cholera reached the port of London in a vessel from Marseilles and Havre. In this instance Dr. MacFadyen confirmed the actual nature of the attack by a bacteriological examination. On July 24th, a vessel from St. Petersburg, which had touched at Dieppe, brought two men into Liverpool port, whom it was found necessary to remove to hospital because of symptoms of cholera. These, with one secondary case, making a total of seven, were all the attacks detected in England up to the end of July. They had all been brought into English ports from abroad. It is worthy of record that in these cases, and indeed as regards 11 out of the total of 13 cases in which cholera was detected in the port towns during 1893, no extension of the disease to any person other than those who had arrived from abroad took place.

Dr. Barry's Report (Appendix A., No. 1) gives a summary account of disease reputed to be of the nature of cholera which took place in England in 1893. In all, 64 separate localities, of which 15 were metropolitan sanitary districts, were involved. Exclusive of the few ship-borne cases the total number of attacks was 287, and of these 135 terminated fatally. Among the 64 localities referred to, however, there were no less than 42, including 14 metropolitan districts, in which only single attacks were heard of. In only one metropolitan district did the number of these reputed cholera attacks reach three. Taking England and Wales as a whole, there were only five localities in which the attacks exceeded 10 in number.

That the attacks were true cholera appears from the facts, first, that, taking all the attacks together, the rate of mortality reached 47 per cent.; secondly, that in 35 of the 42 single

- attacks death ensued ; and thirdly, that in several of these isolated attacks material submitted for bacteriological examination to different experts gave positive evidence of true cholera.

The earliest indication of a cholera prevalence in England during 1893 took place in the town and port of Great Grimsby and the adjoining sanitary district of Cleethorpes-with-Thrunscoe, both situated on the southern shore and near the mouth of the Humber. On August 21st, the Local Government Board were informed by the local Medical Officer of Health of these districts that three deaths from "cholera nostras" had occurred between August 11th and 20th, it being added that in one of the cases the medical practitioner in attendance had referred to the symptoms as being those of Asiatic cholera. Towards the close of the month deaths registered as due to cholera nostras, choleraic diarrhoea, and diarrhoea, became more numerous in Grimsby, and Dr. Reece was instructed to visit the borough without delay. Directly the matter was investigated it transpired that disease of a choleraic nature had been prevalent and fatal in Grimsby ever since the beginning of August. It appeared that a man had arrived in the port on August 2nd, on board the *SS. Dania* from Antwerp, and died the next day of "choleraic diarrhoea." He was buried with precautions—including the wrapping of the body in sheets soaked in carbolic acid, and the surrounding of the coffin with quicklime—which suffice to show that grave suspicions was locally entertained as to the real nature of his malady. Reviewing the circumstances in the light of subsequent knowledge, we find that, in addition to the death of this man, cholera caused in Great Grimsby 15 deaths in August, 18 in September, and 2 in October ; and that there were in Cleethorpes 3 fatal attacks in August and 4 in September, making 43 deaths in all these two adjacent places.

Directly it became evident that cholera was prevailing in Grimsby and Cleethorpes, the Local Government Board, acting under the powers conferred upon them by Section 134 of the Public Health Act, 1875, issued an Order on September 1st, declaring certain epidemic regulations to be in force within these districts. A supplemental Order followed on September 6th. These Orders remained in force until

January 8th, 1894. The regulations embodied in them required the division of each of the Urban Sanitary Districts into "sub-divisions," the appointment of medical visitors and assistants in each sub-division, the daily visitation of localities inhabited by the poorer classes, the gratuitous supply of medicines, medical aid and nursing, the isolation in hospital or otherwise of the sick, the speedy burial of the dead, together with the adoption of measures of cleansing and disinfection wherever these were needed. Choleraic diarrhoea was, for the purposes of the regulations, declared to be a notifiable disease as well as cholera, and a daily record giving particulars as to cases of these maladies was ordered to be transmitted to the Board.

The beginning of cholera in Grimsby and Cleethorpes is involved in considerable obscurity. When, however, notification of "diarrhoea" was instituted by the sanitary authorities of these places, it was found that this disease, under the designation of which certain fatal attacks, which must be regarded as cholera, were registered, had become very prevalent in both Grimsby and Cleethorpes. "Diarrhoea" was also causing a large mortality—in fact, the diarrhoea death rates of Grimsby and of Cleethorpes, during the third quarter of 1893, were out of all proportion to those of the large towns and cities of England during the same period, and they very greatly exceeded the corresponding rate, which had obtained in those districts in antecedent years. When, further, the details of fatal "diarrhoea" in Grimsby came to be examined more minutely, it transpired that the excess of deaths registered under that heading had commenced about mid-July. In a word, prevalence of cholera both in Grimsby and in Cleethorpes occurred simultaneously with an epidemic prevalence of diarrhoea; and, in Grimsby at least, it was preceded by an ominous increase of mortality referred to that cause. It can hardly be doubted, therefore, that cholera had made its way into Grimsby and Cleethorpes sometime before the fact was recognised, and that the disease secured a footing in those towns for the want of adoption of adequate measures of prevention at an early stage. The true character of this diarrhoea was afterwards significantly indicated, when "infective diarrhoea" spread amongst the shipping in two of the

docks in sequence to the occurrence of illness on board a vessel which was certified to be infected with cholera.

In dealing with the local conditions which in Grimsby may have served to facilitate the spread of cholera when once introduced, Dr. Reece is able to exculpate the public water service, but he attaches importance to the influence of faulty conditions of sewerage and drainage. So-called "cesspools" are constructed along the line of the house-drains in such a way that solid filth and refuse are retained on or near domestic premises and soak into the surface soil instead of being carried away to and by the sewers. Such conditions, when coupled with the damming back of sewage in the sewers by tidal action for a large part of each 24 hours, are just those which have commonly been associated elsewhere with excessive prevalence of "filth disease." The Grimsby sewage is ultimately discharged, by means of two out-falls, under circumstances which admit of its being washed back over oyster, mussel, and cockle-beds. In a number of cholera attacks the antecedent history of the sick involved either the consumption, or the reception at their houses, of oysters or other shell-fish, which had been procured at, or derived from, Cleethorpes and Grimsby. Investigations carried out by Dr. Reece showed not only that the oyster beds at Cleethorpes are almost necessarily bathed each tide with the effluent from the main sewers, but that oysters are so stored inside the Grimsby docks as once again to expose them to contamination by sewage. Dr. Thorne's conclusion on this subject is disquieting. He says—"So long as conditions exist, such as those with which the oyster trade of Cleethorpes and Grimsby is shown to be associated, conditions which may at any time involve risk of the fouling of such shell-fish with the excreta of persons suffering from diseases of the type of cholera and enteric fever, so long will it be impossible to assert that their use as an article of diet is not concerned in the production of diseases of the class in question." (Page xxix).

A Report by Dr. Copeman on a series of four cases of suspected cholera at Great Yarmouth will be found in Appendix A, No. 11. Only the last of these came under Dr. Copeman's personal observation. The patient was a lad

of thirteen years, who had some trivial ailment on September 20. Diarrhoea set in on the 21st, and he died the following day. Two circumstances are referred to by Dr. Copeman in connection with this case. The boy was in the habit of bathing in the River Yare at a point where the water is fouled by sewage from a hospital and from certain dwellings. The second circumstance has to do with the sale, in Yarmouth, of cockles, professedly coming from Lynn, but derived, in fact, from Cleethorpes, and sent through Lynn to hide their place of origin. Close to the boy's home was a shell-fish shop which he is known to have frequented, but no evidence of his having actually purchased or eaten cockles was forthcoming. Bacteriological examination of a portion of this boy's ileum was made, and cultivations in a number of media all revealed "pure crops of Koch's comma-bacillus."

Other local outbreaks of cholera were investigated in Hull by Dr. Theodore Thomson (Appendix A, No. 3); at Rotherham, also by Dr. Thomson (Appendix A, No. 4); at Middleton, Lancashire, by Dr. Sweeting (Appendix A, No. 5); at Westminster, by Drs. Sweeting and Copeman (Appendix A, Nos. 6 and 7); at Ashbourne, in Derbyshire, by Dr. Bruce Low (Appendix A, No. 8); in the village of Appleton-le-Street, in the Rural Sanitary District of Malton, Yorkshire, by Dr. Copeman (Appendix A, No. 9); in the villages of Morton and Owston Ferry, in the Gainsborough Rural Sanitary District, by Dr. Bruce Low (Appendix A, No. 10); at Ilkeston, in Derbyshire, by Dr. Wheaton (Appendix A, No. 12); in the Fulham Workhouse, London, by Dr. Copeman (Appendix A, No. 13), and Dr. Klein (Appendix B, page 179); in the Urban Sanitary District of North Bierley, in Yorkshire, by Dr. Bulstrode and Dr. Klein (Appendix A, No. 14); at Tividale, a colliery hamlet in the Rowley Regis Urban District, by Dr. Sweeting (Appendix A, No. 15); and in the Coton Hill Asylum, near Stafford, by Dr. Bulstrode (Appendix A, No. 16).

From the foregoing Reports embodied in Appendix A, it is evident that after the importation of a few isolated cases of cholera into certain English ports in June and July, 1893, definite cholera prevalences set in at Grimsby and Hull during August, and that following on this event a

number of attacks, mostly isolated ones, occurred in different parts of England during the period August to October. When the maps showing the topographical distribution of cholera in England during 1893, with which Dr. Barry's report is illustrated, are examined, it is seen that, apart from importations into ports, 34 out of the 50 places in which choleraic outbreaks occurred in England, lie within an angle having its apex at the mouth of the Humber, and of which one side passes southwards through Leicester, and the other northwards through York. Dr. Thorne thinks it highly probable that the cholera poison was scattered over this wide area of England by nearly a quarter of a million (235,721) excursionists, chiefly of the artisan class, who were booked to Grimsby and Cleethorpes by the Manchester, Sheffield, and Lincolnshire Railway in the six months, May to October inclusive, 1893, and who returned to their homes in South Yorkshire, South Lancashire, and the North Midland Counties, after a short stay in these cholera-infected towns. In a number of instances it is known that cholera was first recognised in certain parts of England, as occurring either in persons who had arrived from Grimsby and Cleethorpes, or in the immediate relatives and friends of such persons, and that the outbreak of the disease was so related to the date of the seaside visit as to make it probable that the one had concern with the other.

Appendix B. is devoted to an account of the bacteriological investigations carried out by Dr. Klein, F.R.S., on reputed cholera material, submitted to him for examination and report. At the outset, Dr. Klein states that by "Koch's comma bacillus" is meant a vibrio, which differs from other species of vibrio occurring in the human intestine—first, morphologically, i.e., as regards size, shape, and motility; next, culturally, as regards growth in gelatine plates, in agar, in broth, on potato, in milk and in peptone solution; and chemically, as regards its chemical products, nitrites and indol formation in broth peptone, or in peptone salt mixture. With reference to his cultural observations of the vibrios obtained by him, in 1893, from the reputed cases of cholera, Dr. Klein is fully confirmed in a suspicion previously entertained by him, namely, that comma-bacilli from different cases

of true cholera exhibit biologically, in the laboratory, marked and stable differences *inter se*. As a result, he has come to the conclusion that the comma-bacilli obtained by cultivation in 1893, from cholera cases in England, represent at least several varieties of cholero vibrio. He is, indeed, disposed to suspect that, under the term "Koch's vibrio," there may be included more than one distinct species of microbes.

Dr. Klein's Report is illustrated by no fewer than eighteen plates. Of these, six include reproductions by the Autotype Company, of photographs which were taken for this volume by Mr. E. C. Bousfield. Unless otherwise stated, the magnifying power in these photographs is 1,000.

Dr. Thorne's Report concludes with a reference to a serious diarrhoeal outbreak which occurred at Greenwich, and subsequently in the Greenwich Union Workhouse, Maze Hill, in the months of September and October, 1893. This remarkable outbreak is reported upon at length in Appendix C. by Dr. H. Timbrell Bulstrode. The illness was characterised by diarrhoea, vomiting, and cramps. In the workhouse, between October 4th and 24th, 240 inmates and 5 nurses were attacked, besides which 5 cases were imported from without. Eleven of the cases terminated fatally, all the deaths occurring in persons attacked between October 8th and 12th. All the victims were over 60 years of age, and the incidence of the disease was all but wholly on those who had passed the age of childhood, and still more especially on those more than 60 years of age. In 12 cases material was available for bacteriological study. This material included stools, as well as portions of the ileum and other organs. In 3 instances distinct comma-bacilli were found, but in none of these did the organisms respond to the cultural or chemical tests which are held to indicate Koch's bacilli; in one instance they were found in every respect to resemble Finkler's commas. In no instance, says Dr. Klein, could the cholera bacillus be isolated by peptone culture. In view of this and of certain other considerations, Dr. Klein came to regard it as in a high degree improbable that the attacks in question were of the nature of true cholera.

No question of food supply was found to account for the epidemic malady. The workhouse water, however, was, on

examination, pronounced to be chemically bad, and, when microscopically examined, it was found to contain not only *Bacillus coli communis*, but also (amongst other micro-organisms) one which morphologically did not differ from the cholera vibrio. But, when further studied by cultural tests, this comma-shaped organism failed to respond to the tests which are regarded as indicative of the true cholera vibrio. One thing seems clear, namely, that this diarrhoeal disease had some infective quality; and it appears highly probable that it was introduced into the workhouse from without, for it subsequently transpired that a similar malady had attacked a limited number of persons, including three medical practitioners, resident in the town of Greenwich, towards the close of September. Facilities undoubtedly existed for the introduction of the disease into the workhouse from without, and the attack which first brought the outbreak under notice, took place in the person of an inmate who was spending the day away from the institution.

The foregoing is a much condensed summary of the Medical Officer's most valuable Report on the importation of cholera into England and Wales in 1893, and the local manifestations of that disease and of reputed cholera which occurred. The record is in the highest degree creditable to the prompt and able administrative action of the Medical Department of the Local Government Board, and not for the first time Dr. Thorne Thorne has deserved well of his countrymen in fending off an invasion of Asiatic cholera.

Diseases of the Spinal Cord. By BYROM BRAMWELL, M.D., F.R.C.P. Ed., F.R.S. Ed.; Assistant Physician to the Edinburgh Royal Infirmary, &c. &c. Third Edition. Edinburgh: William F. Clay. 1895. 8vo. Pp. 659.

IN the number of this Journal for February, 1885 [Vol. LXXIX., Third Series, No. 158], we expressed the high opinion we entertained of Dr. Byrom Bramwell's "Diseases of the Spinal Cord," the second edition of which had appeared a short time before. Readers of that edition would hardly recognise the work which now lies before us. In the first place, the book now runs to 659 pages, as

against 359 in the second edition. The text has been entirely re-written. The subject-matter has apparently been carefully revised, and it has been largely added to. Lastly, the contents have been re-arranged in lecture-form, as in the first edition, but to even a greater extent.

One of the most notable additions to the work is the account of syringomyelia, to which Lectures XXIII. and XXIV. are devoted. Apart from the focal lesions of the anterior horn, of the crossed pyramidal tract, and of the posterior columns, "syringomyelia may be considered as a fourth focal lesion, *a lesion of the central grey matter* of the spinal cord, the essential feature of which is slowly and gradually developed diminution or abolition of the sensibility to thermal and painful impressions, with, in many cases (since the adjacent anterior and posterior horns of grey matter are very frequently involved), slowly and gradually developed muscular atrophy and vaso-motor and trophic derangements in the skin, nails, hair, bones, joints, &c."

This is a good working definition, and affords a fair specimen of the author's lucid and attractive style. He is equally happy in his definition of Ataxic Paraplegia (page 385):—"The essential feature of the condition . . . is a sclerosis of the posterior columns and crossed pyramidal tracts. The clinical features represent this combination. The chief symptoms are—(1) ataxia, due to sclerosis of the posterior columns, and (2) muscular weakness and exaggeration of the deep reflexes, due to the lesion of the crossed pyramidal tract."

A good deal of the material contained in this book is to be found also in Dr. Byrom Bramwell's "Atlas of Clinical Medicine," but this is legitimate when we consider the costliness of that great work, and in the next place recollect that the volume before us is a monograph on Spinal Diseases, whereas the *Atlas* is devoted to Medicine in general.

It gives us pleasure once more to bear testimony to the many excellencies of this work, which is eminently suited for advanced students as well as for registered medical practitioners. The book is well printed, beautifully illus-

trated, and the letterpress is singularly free from errata. A full index brings it to a close. The price of the work is sixteen shillings net. It is steadily winning its way to the front as a standard work and text-book on an admittedly difficult subject; and we note with interest that the author contemplates the publication of another volume, presumably on cerebral diseases, for on the first page the caption runs—"Lectures on the Diseases of the Nervous System. Vol. I. Spinal Cord."

Surgery: its Theory and Practice. By WILLIAM JOHNSON WALSHAM, F.R.C.S. Eng.; M.B. and C.M. Aberd.; Senior Assistant-Surgeon, Lecturer on Anatomy, and Surgeon in charge of the Orthopædic Department, St. Bartholomew's Hospital; Surgeon to the Metropolitan Hospital; Consulting Surgeon to the Hospital for Hip Diseases, Sevenoaks, and to the Cottage Hospital, Bromley; Examiner in Anatomy to the Conjoint Board of the Royal College of Physicians and Royal College of Surgeons; late Examiner in Surgery to the Society of Apothecaries. With 380 Illustrations. Fifth Edition. London: J. & A. Churchill. 1895.

MR. WALSHAM'S manual is far too familiar to the student-public to require a formal introduction by the reviewer. The very striking fact that 20,000 copies had already been printed in less than eight years is, we think, as high testimony to the appreciation of his work as the author of a scientific text-book can well hope for in the present generation. This unusual proof of approbation "has encouraged the publisher to issue the present edition in a more convenient shape and size; to improve the character and distinctness of the type; and to liberally add to the already numerous illustrations." Well-selected additions of new matter have been made, so as to render the volume worthy of the confidence which has been so freely bestowed on the preceding issues. At the same time, correspondingly judicious subtraction of effete material has been carried out, so as to prevent any material enlargement of size. The author has spared no pains to render this fifth issue

fully deserving of the very enviable popularity which has been bestowed on its predecessors. We cordially recommend his compendious text-book of Surgery to students as one of the most convenient and reliable which our language possesses.

The Surgical Diseases of Children and their Treatment by Modern Methods. By D'ARCY POWER, M.A., M.B., Oxon., F.R.C.S. Eng.; Demonstrator of Operative Surgery at St. Bartholomew's Hospital; Surgeon to the Victoria Hospital for Children, Chelsea; Examiner in the University of Durham; Member of the Conjoint Examining Board of the Royal College of Physicians (Lond.) and of Surgeons (Eng.). With Illustrations. London: H. K. Lewis. 1895.

THIS well-written and well-printed volume of 548 pages forms an excellent addition to Lewis's well-known "Practical Series." As the author truly observes in his preface, there is but little apology required for the appearance of his manual. "The surgery of childhood is singularly wanting in text-books; there are but a few in German, still fewer in French. In English, only the works of Mr. Holmes and Mr. Owen are devoted to pure surgery. Messrs. Ashby and Wright's excellent treatise, and Keating's Cyclopaedia of the Diseases of Children, combine medicine with surgery." We also fully agree with Mr. Power that the gain in harmony more than compensates for the loss in detail necessitated by the fact that "the work is written by a single individual, and not by that system of collaboration which is now fashionable in medical literature."

The tone of the volume is eminently practical throughout. The author has had excellent opportunities, as surgeon to a children's hospital, for perfecting his knowledge of this department of surgery. He gives his readers concise and clear statements of the various surgical methods which have given, in his own hands, the most satisfactory results. We are only too glad that he has not overloaded his work with scientific theory: "only so much pathology has been introduced as is necessary to show why the modern treat-

ment differs from that formerly employed." We must not omit to call attention to the excellent bibliography and the correspondingly good index with which the book concludes. There are sixty well-chosen and instructive wood-cut illustrations.

The judiciously practical tone maintained by the author throughout has impressed us most favourably. We were specially pleased to see that he is not over-enthusiastic in his hopes of the future results of the much-advertised and much-belauded antitoxin treatment of diphtheria. As the author allows himself—necessarily—but a limited space for each of his very numerous subjects, the diagnosis of the more obscure surgical affections sometimes receives too brief discussion to make the perusal of much help to the puzzled practitioner. As an instance, we would suggest to the author that he should re-write at greater length, in the next edition, the account of the diagnosis of separation of the lower epiphysis of the humerus—a most important, and very often wrongly-diagnosticated, injury. But we will not attempt to pick out any small faults in a volume with which, upon the whole, we are very much pleased; the plan of which is excellent; and the details of which, in the vast majority of cases, are as fully investigated as the necessarily limited space at the author's disposal allowed. We cordially recommend Mr. Power's Manual to the attention of all students and surgical practitioners.

Dissections Illustrated. By C. GORDON BRODIE, F.R.C.S.
With Plates by PEROY HIGHLEY. Parts III. and IV.
London and New York: Whittaker & Co.

WE have already noticed the first and second parts of this work, treating respectively of the upper and lower limbs; the present two parts include the rest of the body, Part III. being devoted to the head, neck, and thorax, and Part IV. to the abdomen—the four parts thus forming a complete atlas of topographical anatomy as exhibited by ordinary dissection. Unfortunately, no plates of frozen sections of the different regions are introduced. This is,

in our eyes, a great drawback. No topographical atlas of anatomy can pretend to completeness at the present day unless it include a series of frozen sections of the different regions described.

In the parts before us the same plan has been followed as in the case of its predecessors. Careful dissections have been prepared and plates drawn from them, the arteries being coloured red, the veins blue, the muscles a reddish brown, while the nerves are uncoloured and come out white. A fairly pleasing effect is produced by this combination, and the resulting pictures look very well, particularly at a little distance. On close inspection, however, in several of the plates there is a certain roughness of outline which gives rise to a want of definition among the finer structures.

Part III.—The first plate gives a very satisfactory view of the posterior triangle of the neck, which might with advantage have been extended upwards so as to include the occipital artery. The next shows the anterior triangle; but does not make by any means such an attractive picture. The third is a deeper and much fuller view of the same triangle—to us the mylohyoid nerve seems to occupy an unusual position. The fourth is a good picture of the side of the neck, the sterno-mastoid having been removed. This is succeeded by a very good illustration of the back of the neck and sub-occipital triangle. Next comes a careful picture of the side of the face, in which the nasal nerve (external branch) seems to run down superficially along the nose from its root. The masseter is reflected, and the temporal and buccinator muscles, with their surroundings, are exposed in the following picture. This is followed by an indifferent picture of the pterygoid region, another giving a deeper view of the same region and showing the orbit from the outer side, and a third which shows a deep dissection of the side of the neck and pterygoid region. We fear this last will not be found very useful by the student. The following plate shows the base of the skull and the two orbits opened from above. We would point out, regarding this picture, that the orbits are too small to be useful, that the appearance

of the tentorium has been completely missed—it looks flat or perhaps concave on its upper surface; and lastly, that it contains an error for which we would come down severely on a second-year's student of anatomy—namely, the internal carotid immediately behind the optic foramen is marked on both sides as the ophthalmic—a well-known error, popular with young students. The next plate is also devoted to the base of the skull, and is very indistinct, almost useless we should say. The picture of the pharynx from behind which follows it is very fair; still the student will hardly go to the trouble of unravelling the maze on the left side of the pharynx, above. The succeeding plate shows the pharynx slit up along the back, exhibiting the openings of the nose, mouth, and larynx—in it the Eustachian cartilage is badly coloured; it looks like muscle rather than cartilage. The next plate contains three pictures of the larynx—too rough to be of any use. The “head and neck” is completed by a rather uninteresting sagittal section of the head.

The last four plates in this part are devoted to the Thorax. The first shows the pleural sacs after the careful removal of the anterior wall of the thorax. In the second the lungs are pulled aside and the pericardium opened. The trachea in this plate seems unnaturally wide. The third is a view of the thorax from behind—curious but not useful. It would have been much better if the ribs had been left *in situ*, and the lungs, &c., exposed. The fourth of these pictures shows the thorax and neck of a nearly full-term foetus. The thymus gland is exposed, but it extends a shorter way than usual up the neck.

In this part there are several diagrams, in black and white, to make clear certain points in the anatomy of the regions illustrated. Two of these call for notice—one under the heading of Plate LIV., which gives, we think, an inaccurate idea of the lower border of the lung and pleura, and the diagram (under Plate XLIV.) of the lateral sinus, which (as well as the description accompanying it) was either copied from or inspired by an article that appeared in this Journal within the past few years, and this without the slightest acknowledgment. We have looked up the paper

we refer to and find the descriptions of the various points almost verbally identical.

Plate IV.—The Abdomen. This is the final part of the work before us, and, we fear, the one which we like least. The first three plates are devoted to the perineum, and give very satisfactory views of this region in three different stages of dissection. They are succeeded by two double-page plates of the anterior abdominal wall, which are also good—fine bold pictures of the muscles and other structures of the wall. Of the remaining nine plates devoted to the viscera not one, in our opinion, is satisfactory. The first of these shows practically nothing but great omentum, and we cannot see why it was put in. The second will teach practically nothing. The third is of the same kind; in it we notice an extra wide vermiform appendix, and a faulty duodenum. The fourth is a maze of red and blue blood-vessels, with a wonderful spleen and pancreas, neither of them a bit like the organs in their natural condition. In the fifth picture these viscera are repeated, accompanied by two doubtful kidneys. The sixth plate shows the spleen in a still worse condition. Plate LXXI., which follows, is a side view of the pelvis, and is fairly good. Plate LXXII., Fig. 1 is also fairly good, but wants rotating. Fig. 2 is useless. The diagram under heading Plate LXXIII. gives the normal position of the ovary on the left side, which is, we fear, very far from the normal of most anatomists. The last plate is a side view of the female pelvis; it is fairly good, but the symphysis seems to have been incorrectly rendered.

As we mentioned above, we like this part least of all. We think the pictures of the abdominal viscera do not represent them in anything approaching their normal conditions. The abdominal viscera are hollow, or soft and pliant structures, which are easily moulded by adjacent organs. They rapidly undergo *post-mortem* changes, and alter in shape, appearance, and relations. For these reasons no pictures of dissections of ordinary dissecting-room bodies can give any true idea of the viscera. To get correct pictures the viscera must be hardened *in situ* by injection before the abdominal cavity is opened. In this

way only, and by means of frozen sections, can the state of the abdominal structures be properly made out.

Taking all the parts of the *Atlas* together, we think they give a very fair idea of the ordinary anatomy of the human body, and we are sure they will be found useful by many to recall the appearance and relations of the parts represented when actual dissections cannot be consulted.

Burdett's Hospital and Charities Annual, 1895. By HENRY C. BURDETT. London: The Scientific Press (Limited). Crown 8vo. Pp. 915.

THIS volume forms the sixth annual issue of "Burdett's Hospital and Charities Annual." The publishers state that "very strenuous efforts have been made to render the information contained therein absolutely correct." These efforts have not always been crowned with success, at least judging by the errors we have noted in connection with the staff of the Dublin hospitals. The late Dr. Duncan's name still appears as Consulting Physician to the Adelaide Hospital; Dr. Head is still described as Senior Physician. The name of the Consulting Physician of the Drumcondra Hospital is omitted. Among the physicians to the House of Industry Hospitals we find "Joseph Carroll" instead of "Joseph O'Carroll." The same well-known physician figures as "J. O. Carroll" in the staff of St. Joseph's Hospital for Sick Children. William Colles, who died on June 18th, 1892, is still described as Consulting Surgeon to Mercer's Hospital; the late William Roe is given as Master of the National Lying-in Hospital. It is, however, only fair to state that no return had been received from the last two hospitals by Mr. Burdett. H. St. J. Brooks resigned his surgeoncy to Sir. P. Dun's Hospital several months ago, and the same remark applies to A. H. White, formerly Clinical Assistant at the Meath Hospital.

It is, perhaps, true that these errors are not of vital importance; nevertheless, they should not exist in a work of reference, which plumes itself on its accuracy, and

which is really of extreme value to all who are interested in hospital management and finance.

In the early chapters much information is given about all sorts and conditions of hospitals. The section on special hospitals is particularly interesting. It deals with consumption-hospitals, hospitals for children, lying-in hospitals, ophthalmic and fever hospitals, and miscellaneous special hospitals. Under the first heading mention is made of "the establishment of a hospital for consumption near Dublin." This is more accurate than the account of the Newcastle hospital which appeared in *The Hospital* for June 8th. It was described as being in process of construction at "Newtown, Mount Kennedy, County Galway." The same periodical a week previously contained a full account of what was repeatedly called the "Jervis Bazaar"—Oh ! Shade of Ierne !

Among the Lying-in Hospitals the Rotunda takes its place, but no statistics are given about the Coombe Hospital or the National Lying-in Hospital. The Rotunda comes very well out of its comparison with kindred institutions in London and the Provinces, both as regards work done and in respect to economy in expenditure.

The National Eye and Ear Infirmary alone figures in a table, on pages 148 and 149, giving a detailed account of expenditure under all heads in 1893.

The tables referring to fever hospitals contain particulars relative to two such institutions only—the London Fever Hospital, and Cork-street Fever Hospital, Dublin. The information embodied in these tables is full of interest and instruction. We have nothing but praise for the way in which Mr. Burdett handles the subject, and we cordially agree in his views, particularly when he urges that special accommodation for paying patients should be provided in fever hospitals. We quote his words at length:—"There is no more useful institution in the metropolis than the London Fever Hospital, which adequately meets the need of well-to-do patients, who are able and willing to pay for hospital treatment, when suffering from fever or other infectious diseases. No rate-supported hospital under the control of a municipality or a health authority can be deemed

efficient unless it provides special accommodation for paying patients. This accommodation is rendered the more necessary by the strict enforcement of the Act providing for the notification of infectious diseases. We have often advocated the throwing open of fever hospitals during periods of the year when they are unoccupied, for the inspection of the public, so as to make people better acquainted with the excellent accommodation now provided in many public hospitals for the reception of fever and small-pox cases—accommodation which is often superior to that which it is possible to improvise in an ordinary dwelling-house" (pages 150 and 151).

It is little short of disgraceful that next to no provision is made in our Dublin hospitals for the reception of paying fever-patients, and we earnestly commend the fact to the consideration especially of the Managing Committee of Cork-street Fever Hospital.

While we have not hesitated to call attention to the errors in this issue of "The Hospital and Charities Annual," we would again bear testimony to the infinite care and untiring labour which Mr. Burdett has bestowed upon his work.

Notes on Medical Nursing: from the Lectures given to the Probationers at the London Hospital. By the late JAMES ANDERSON, M.D., F.R.C.P., Assistant Physician to the London Hospital; Physician to the National Hospital for the Paralysed and Epileptic; Lecturer on Pathology at the London Hospital and Joint Lecturer to the Nursing Staff on Elementary Physiology and Medical Nursing, &c. Edited by ETHEL F. LAMPORT, Associate of the Sanitary Institute and of the British Institute of Public Health; formerly Hospital Sister at the London Hospital. With an Introductory Biographical Notice by SIR ANDREW CLARK, Bart.; late President of the Royal College of Physicians, London. Second Edition. London: H. K. Lewis, 1895.

BUT a few months ago (December of last year) we gave a short critical notice of the first issue of this little manual;

and the peculiarly rapid exhaustion of that edition has amply proved that the members of the section of the reading public who are interested in the subject of "Medical Nursing" have fully endorsed the very favourable opinion which we then expressed. "A few alterations and additions have been made in this edition, which will, it is hoped, still further increase its utility." They are not, however, of sufficient importance to call for special notice; and we will, on the present occasion, merely reiterate our former recommendation of this volume to all students of the subject with which it deals.

The Student's Handbook of Forensic Medicine and Public Health. By H. AUBREY HUSBAND, M.B., C.M., B.Sc., F.R.C.S.E., M.R.C.S., L.S.A.; late Lecturer on Medical Jurisprudence and Public Health in the Extra-Academical School, Edinburgh; Member of the General Council of the University of Edinburgh; and Extraordinary Member of the Royal Medical Society, Edinburgh; President of the College of Physicians and Surgeons, Manitoba; author of "Student's Handbook of the Practice of Medicine," "Medical and Surgical Examination Questions," "The Urine in Health and in Disease," "Analysis of Foods and Drugs," "Sanitary Law," &c. Sixth and Revised Edition. Illustrated by Diagrams and Coloured Plates. Edinburgh: E. & S. Livingstone. 1895.

THIS popular little volume is far too well known to the professional and student public to require a detailed notice of its new issue. With a modest and unobtrusive confidence the author announces in his short preface that "the present edition has been carefully revised, and much new matter has been added. The Section on Optical Phenomena has been increased. The author hopes that the addition of the diagrams and other illustrations will make the book still more useful, and that it will receive the same meed of favour in the future that it has had in the past." We thoroughly appreciate the endeavours made by the author to bring this new edition up to date, and render it worthy of

the popularity of its predecessors. And we will only add that we cordially recommend our old friend in new dress to all whom it may concern, as the best of the shorter guides to the contained subjects with which our own reading has made us acquainted.

Therapeutics: its Principles and Practice. By H. C. WOOD, M.D., LL.D. Ninth Edition. London: Smith, Elder & Co. 1894.

DR. WOOD'S treatise has now been many years before the public, and a ninth edition attests the favour with which it has been received. Notwithstanding the laudable efforts of the author to prune down his abundant materials, he has found it necessary to enlarge the volume by nearly 100 pages. The work is revised up to date, and among the non-official remedies which receive due consideration we note, pental, chloralose, chloralamide, piperazin, trional, tetronal, tropacocain, and cresol.

Throughout the book the writer has constantly endeavoured to eliminate effete material and to incorporate the numerous discoveries of the past three years.

It is a difficult, some will say an impossible, task to write a really satisfactory treatise upon therapeutics at the present time. Still we think that Dr. Wood's work is one of great value, and is, in our opinion, the best treatise in the English language for consultation or reference.

Wintering in Egypt. By ARTHUR J. M. BENTLEY, M.D., and Rev. C. G. GRIFFINHOOFE, M.A. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. Illustrated. 1894. Pp. 188.

AN interesting little book, divided into "Part I. Under the Shadow of the Pyramids;" and "Part II. Hints to Invalids." The illustrations are very good, being done in half-tone from photographs; but the following note in the last page reveals the real *motif* of the book:—"Dr. Bentley's address is, *in summer*, 64 Harley-street, W., and *in winter*, Cairo."

PART III. SPECIAL REPORTS.

REPORT ON NERVOUS AND MENTAL DISEASE.*

By RINGROSE ATKINS, M.A., M.D.; Resident Medical Superintendent, District Lunatic Asylum, Waterford.

I. INSANITY IN GENERAL.

The Morrison Lectures on Insanity.—Abstracts of the Morrison Lectures on Insanity for 1894, by Dr. J. Batty Tuke, were published in the *Lancet* for Feb. 10 and 24, and March 10. The lecturer discussed the methods of action of some of the proximate causes of insanity, and the principles of treatment founded on these. Within the last thirty-five years ætiology had in theory, if not in practice, been adopted instead of mere symptomatology as a basis of classification. There was every probability that we shall have to retain this system of classification for many years to come—and there was even a possibility of its terminology becoming permanent in consequence of a definite pathological meaning becoming attached to many of the presently recognised ætiological groups. It appeared to him extremely likely that the mental symptoms would not bulk very largely in our eye, that we should commence the study of cases by careful investigation into the bodily condition, and that the mental symptoms would be regarded as incidental. The rough provisional diagnosis would result of disease of the brain with mental symptoms. The lecturer proceeded to consider facts and theories bearing on the general proposition that insanity was the result of well-defined morbid processes, and that it was but one of a group of symptoms in a given case. He described and demonstrated, by means of the optical lantern, the structure of a convolution, following the description of Ramon-y-Cajal,

* The author of this Report, desirous that no contribution to the subject on Nervous and Mental Disease should remain unnoticed, will be glad to receive any publications which treat of it. If sent to the correspondents of the Journal they will be forwarded.

pointing out the various layers of cells and processes as shown by Golgi's method of preparation. He dwelt upon the true structure of the pia mater, and the importance and connections of the lymphatic system in the brain.

At present the physical basis of mental phenomena could only be surmised. Cajal says that "With some limitations it may be affirmed that the psychical functions are inseparably associated with the presence of the pyramidal or psychical cells." The lecturer considered the causes of implication of the apparatus and the mechanism of cerebral congestion, and the removal of effete products.

The solutions of continuity of the brain elements produced by hyperæmia of the convolutions, were the early symptoms of idiopathic insanity—that is, the insanity produced by over-exertion of brain function. The initial symptoms consisted of a feeling of fulness or uneasiness of the head, or in a dull heavy pain extending from the forehead to the vertex, or even to the occiput, with, in some cases, throbbing of the temples and eyeballs. There was a general feeling of *malaise*, the pulse was irritable, the temperature rose slightly at night, the general system became impaired, disturbances of the digestive system manifested themselves, and the nutrition of the body had suffered. In women menstruation was affected. The mental symptoms consisted of anxiety, restlessness, irritability, inability to apply the mind, introspection, concentration in self, and sleeplessness. If no check is applied to the progress of morbid processes, loss of the function of control over ideas is manifested by excitement in one or two directions, and a condition of either acute melancholia or acute mania is established.

In the brains of those dying insane the naked-eye evidence of change was in the line of Pacchionian villi and the Rolandic area, from which it gradually faded away anteriorly, posteriorly, and laterally. The pyramids were the first cells to show morbid changes. There were the strongest reasons for believing that kinæsthesia, transmutation of sensory stimulus into motion, occurred in the pyramidal cells of the Rolandic area. In almost all subjects evidence of work was found in these organs, but the evidences of work increased proportionately with age and cause of death. In cases which

he had examined, which had succumbed earliest after the incidence of insanity, none of the cells of the anterior two-thirds of the frontal convolutions and of the posterior occipital gyri were so deeply implicated as those of the Rolandic area.

In the convolutions anterior to the Rolandic area, the changes were indicative of impaired nutrition rather than of active morbid processes. The lecturer discussed the symptoms produced by morbid hyperæmia of the Rolandic area. The digestive system was the first as a rule to suffer prominently; the muscular system next showed loss of tone. The patient had a general sense of weakness and inability. At this stage there are most frequently abnormal salts in the urine. The blood suffered sooner or later usually after the prodromal period. The actions and reactions of the blood conditions demanded careful inquiry. Accentuation of the first heart sound, which was a common symptom, was of no importance. Much greater importance was often attached to menstrual disturbances than was warranted. Insanity was never the result of disease of individual organs, but it was occasionally more or less connected with diathesis or cachexia, such as tuberculosis, rheumatism, gout, and syphilis; but in many of these it was only a connection, and could not be regarded as the determining agent. As the outcome of his views on the insanity of over-exertion, Dr. Batty Tuke lays down rest as the main principle of treatment, the conditions to be dealt with being those of over-stimulation and exhaustion.

Tremor in the Insane.—Cristiani (*Revista Sperimentale* XX. 1 March, 1894) concludes a study of the tremor of insanity with the following general statements:—In the most varied forms of mental disorder, in the simple idiopathic types, we very frequently find tremor occurring independently of all other factors by the sole fact of the altered function in the psychic sphere. This tremor is an intention tremor, appearing in voluntary movements, ceasing during repose.

It cannot be referred to any single nosological form of mental alienation, but only to the two fundamental systems of exaltation and depression that may be met with in every form of psychosis. In cases of exaltation the tremor is vibratory; the vibrations are more frequent, quicker, less rhythmic, and equal. In cases of depression the tremor is

undulatory, the oscillations are fewer, slower, not so high, more equal, and more monotonous in rhythm.

There is, therefore, a correspondence between the two fundamental symptoms of exaltation and depression, that are met with in the different forms of mental alienation and the motor phenomena of tremor, which gives evidence of a hyper- or hypo-activity, according as one or the other of these two elements prevails.

The tremor of insanity has a pathogenic mechanism and a semiotic significance that may be summed up in the functional dissolution of the cortical nervous centres, and in the weakness, inco-ordination, and scattering of the psycho-motor force. (*Am. Journ. of Insanity*, July, 1894).

Specific gravity of the urine in Insanity :—Stefani (*Revista Sperimentale*, XX. L., 1894) has investigated the specific gravity of the urine in various forms of insanity, the whole number of patients studied being sixty, and the examinations continuing over a month or more. None of these cases suffered from any notable organic complications, and their diet, digestion of fluids, condition as to perspiration, bodily weight, &c., were all taken into consideration. Stefani finds, as a general result, that the specific gravity of the urine is increased above the normal (to 1030 and 1040 or more) in all cases of acute insanity, independent of their special type. It decreases again with convalescence, or remissions, and may even go below the normal; but in this latter case there is usually an increased excretion of urine. When the disorder tends to become chronic, the urine returns to the normal, frequently by irregular oscillations. In cases of imbecility, primitive paranoia, and the quiet paretic dementia, there is no notable change in the density of the urine, but should any acute exacerbation of the condition appear, it is increased. (*Am. Journ. of Insanity*.)

The Simulation of Insanity by the Insane :—Leon Charnel, writing on this subject (*Bull. de la Soc. de Méd. Ment. de Belgique*), concludes that—1. The insane may simulate another form of insanity than their own; this is possible, however, only in cases where the intellectual faculties are not too much disordered. 2. The forms of insanity most often simulated are, in order of frequency, imbecility,

dementia, mania. The other forms much more seldom. 3. Generally a lunatic simulates insanity for a purpose, usually that of escaping punishment. 4. In such cases, therefore, the expert physician ought not to be satisfied with a diagnosis of simulation. He must remember that this does not exclude real insanity, and he should endeavour to ascertain whether or not the simulator is himself a lunatic. The task is sometimes difficult, but with care, patience, and long-continued observation, a complete and correct diagnosis is possible, and this is the more important since in these cases the serious question of responsibility arises.

Hysteria and Insanity.—At the session of the French Congress of Alienists, at Clermont Ferrand, August, 1894 (rep. in *Gaz. Méd. de Paris*), M. Ballet (of Paris) discussed the relations between hysteria and insanity. By insanity is understood the mental state of an individual who is not in possession of his full intellectual, moral, and affective powers. The prevailing opinion at present is that hysteria is a mental disorder. Its symptoms are psychic, having as their origin certain too-forceful mental representations, or association of ideas too facile and active. In a psychological point of view the elementary disturbance in hysteria should be considered as a disaggregation of the mental elements, with restriction or narrowing of consciousness, but with retention of subconscious and automatic functions: hence a restricted personality, mobile and changeable. The psychic disorders of hysterical persons are not solely due to hysteria; we find them also associated with degeneracy, and then they have heredity for their common origin. Hence the need in these cases to distinguish separately the mental state.

According to M. Ballet, all forms of insanity may be associated with hysteria. The following are the special points to which he thinks the attention of alienists should be directed:—

1. Is hysteria exclusively mental? Its definition, and the rate of consciousness in the genesis of its phenomena.
2. The clinical and physiological relations of hysteria and mental degeneracy.
3. The character of hysterics; their instinctive perversions and criminality.

4. Hysterical delusions considered as equivalents of the attacks.

5. Fixed and sub-conscious ideas of hysteria; their part in the production of certain delusions.

6. Is there a hysterical mania? What are its characteristics and types? Relations between the attacks and the sub-conscious ideas.

7. Does melancholia possess special features in hysterical individuals.

8. Does mental confusion exist in hysteria? What are its causes and characters?

9. The insanities associated with hysteria; their difference from hysterical insanity, and the characteristics by which they can be diagnosticated.

Lastly, M. Ballet considered that, before going farther, it would be necessary to lay down what might be considered as the mental characteristics special to hysteria.

M. Joffroy (of Paris) thought the question should be given in the following form:—The relation of hysteria to mental degeneracy?—because hysteria and mental degeneracy are frequently associated, leading to the suggestion that the one is a modification of the other. Common origin is suspected from a common character. Hysteria and degeneracy will thus be two clinical syndromes due to heredity, and characterised by the penetration of sub-conscious ideas into the lessened or effaced field of consciousness. From this follow these propositions. Hysteria and degeneracy often co-exist in the same patient, and have the same aetiology—heredity. They both reveal themselves by an analogous mental mechanism. The conclusion is therefore justified that hysteria is one of the manifestations of mental degeneracy, and this explains the deformities of character met with in both; and the following are the conclusions of M. Joffroy:—

1. Hysteria is one of the forms of mental degeneracy.

2. In its limits, hysteria is confused with certain degenerative manifestations, without its being possible to fix between them any definite limits.

3. Clinically, the individuality of hysteria should be preserved as much as possible from the other forms of mental degeneracy.

4. Therefore the term hysterical should be applied only to the phenomena of the complete or partial attack, or to manifestations that are clearly hysterical, like spontaneous somnambulism, or to those directly connected with hysteria. M. Régis called attention to the analogies between the mental symptoms of hysteria and the toxic or infectious insanities. One step farther in the evolution of this, as yet theoretic, conception, and we shall be admitting, with certain authors, that hysterical insanity will fall into the intoxications. M. Falret defended the nosological autonomy of hysterical mania as a form of insanity with simply diminished lucidity in contrast with simple mania, in which it is abolished.

M. Charpentier opposed the psychological conceptions of hysteria. According to him it is the result of nervous exhaustion and not of degeneracy or heredity, which are convenient expressions for relieving the embarrassment of ignorance.

M. Brissaud insisted on hystero-traumatism. It is needful, he said, to admit another factor than degeneracy, when, after an injury, we see an individual without prior taint develop hysterical symptoms. It may be said that in these cases there was a latent degeneracy; but who knows this. If latent, can it be said to exist? This is a serious objection to the degeneracy theory.

M. Pierret thought that hysterical insanity was a reality, and condemned the degeneracy theory. Certain hysterical attacks are replaced by mania, and in hysterical mania the psycho-sensorial disturbances are absolutely preponderant, as in the toxic insanities. There is semi-consciousness of the patient.

The outcome of this discussion, as remarked by the *Gazette Médicale*, is that it seems very difficult to differentiate true hysterical insanity from the psychoses caused by mental degenerative states. The exact relations of hysteria to degeneracy are not definitely settled, and in the traumatic cases at least are dubious.

II. ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM.

The Structure of the Cerebellum in Man.—At a recent meeting of the Anatomical Society of Paris, M. Azoulay

exhibited preparations made by Golgi's method demonstrating the finer structure of the cerebellum. The Purkinje's cells, he said, varied in the adult and in the infant—that of the adult reaching nearly to the pia, while that of the child was not seen to reach to more than half way in the molecular zone. In the infant the protoplasmic arborisations were arranged in the form of spines ceasing abruptly, while they became arborescent in the adult. This indicates that the function controls the development of the organ. On the cylinder axis we see dark globular masses destined to the later elongation of the fibre. When the Purkinje's cells are well developed their prolongations resemble climbing arborisations. In the molecular layer these arborisations are very prominent, and are drooped in a fashion resembling the branches of a willow. In very voluminous cells the protoplasmic processes divide into many branches, each of the divisions resembling a nerve fibre. A very high magnifying power is needed to follow them. The cylinder axis is very hard to find in these cells, and is of the short type. The neuroglia cells of the cerebellum of the human species are much more numerous than in that of the lower animals.

The Structure of the Cerebral Arteries.—Hager and de Boeck (*Bull. de la Soc. de Méd. de Belg.*, Sept. 1894), from their studies and examinations, deduce the following conclusions as to the structure of the cerebral arteries:—

1. There are in the vascular networks certain special and characteristic anatomical arrangements that endow them with a certain autonomy. Frequently, and particularly in the organs with intermittent functions, the mode of branching of the arteries is such that a multiplicity of routes is offered to the blood: the resistance to the passage of the circulation by these various ways differs according to the degree of contraction or of patency of the vessels, and the distribution of the blood to the various organs undergoes corresponding variations.

2. The anatomical disposition here noted is especially shown in the brain; the cerebral arteries do not supply distinct cortical branches, and the cortical circulation is therefore constantly dependent on that of the mesencephalon.

3. This structure and manner of distribution of the cerebral

arteries has for its result the insurance of a regular and constant cortical circulation, as long as the pressure in the carotids is sufficient to maintain the vascular *tonus*; this is the case during waking hours or intellectual activity; in sleep, on the contrary, cortical ischaemia exists, due to the lowering of the arterial pressure and the general dilatation of the arteries throughout the vascular system.

4. No sphincters or other special muscular histological arrangements exist in the musculature of the cerebral arteries: the special arrangements of the encephalic circulation, and the peculiarities of their functions are due, before all, to the disposition of the vessels in superposed and not anastomosing areas.

The Neuroglia of the Spinal Cord.—Brissaud (*Revue Neurologique*, Oct. 15, 1894) is of opinion that all the cells of the neuroglia are essentially epithelial in their nature. The cylindrical cells of the ependyma of the spinal canal are merely a variety of the cells of the neuroglia, and terminate at their basal extremity in numerous processes similar to those of the so-called spider cells. In cases in which the central canal is filled with epithelium, several more or less regular openings may sometimes be found in a transverse section similar to those occurring in glandular epitheliomata, and the deep elements of the neuroglia beneath the epithelium of the central canal, even when the latter is normal, not infrequently group themselves about a cylindrical opening. These facts the author thinks suggestive as to the mode of formation of cavities in syringomyelia.

The Neuroglia Elements in the Human Brain.—Dr. Lloyd Andriezen, as the result of his investigations by the Golgi-Cajal method modified by himself, proposes to classify these as follows (*vide* last Report, July, 1894): I. Neuroglia fibre-cells. II. Protoplasmic glia cells. Between these two classes of cells there are well-marked distinctions. There are two species of neuroglia fibre-cell—(a) that situate in the first layer of the cortex, the caudate cell; (b) that situate in the medullary substance, the stellate fibre-cell. The caudate cells are embedded in the outermost layer of the cortex with their bases towards the pia mater. From the apex of each cell fibres stream, tuft-like, into the deepest layers of the

cortex. From the base tangential fibres are given off. The individual fibres are long, smooth, contoured of uniform thickness, unbranched, and slightly wavy. In the stellate fibre-cell, a distinct cell-body is hard to recognise; its characteristic is the enormous number of fibres it gives off. These closely resemble the fibres of the caudate cells. The protoplasmic glia cells, in contra-distinction to the neuroglia fibre-cells, occur abundantly throughout the gray matter in all layers of the cortex, and are correspondingly rare in the medullary substance. These cells possess a distinct cell-body, their processes are of moderate length only, vary greatly in calibre, and are dendritic. Further, the protoplasmic glia cells are attached to the perivascular sheaths by one or more processes. Andriezen gives reasons for believing that these cells with their processes are surrounded by lymph spaces, which are continuous with the perivascular lymph space. The neuroglia fibre-cells exhibit no such lymph space. In addition to the distinctions already drawn between the two classes of cells, it can be shown that the protoplasmic glia cells with vascular connection are meso-blastic in origin, whilst the neuroglia fibre-cells are epi-blastic. The function of the latter seems to be to provide "a passive supporting feltwork" in the brain, whilst the protoplasmic glia cells play "an active rôle in the circulatory and lymphatic economy of the brain." The cells last mentioned are really the elements which hypertrophy and fibrillate in pathological states, such as alcoholism and general paralysis. A further noteworthy point is, that the fibre-cells form a perivascular feltwork ensheathing the cerebral blood-vessels, constituting a "distinct and well-organised fourth coating." The cells are arranged mainly with the long axis parallel or transverse to that of the vessels. Being embedded in the ground substance they have no continuity with the adventitial sheaths of the vessel which lies outside that substance. Besides the cells mentioned, the ordinary stellate glia cells contribute a few fibres to the perivascular feltwork. As to the physiological significance of the sheath, Andriezen points out that it opposes a considerable resistance to undue expansion of the blood-vessels, thus in a measure compensating for the weakness of the muscular coat, and the absence of a tough adventitial

coat in the cerebral blood-vessels. Further, its texture and porosity are such as to allow of the free passage of lymph and products of metabolism, thus permitting interchange between the cerebral tissue and the peri-vascular lymph spaces.

In a paper entitled "Dei Limiti Precisi tra il Nevroglio e gli Elementi Nervosi del Medollo Spinale." (*Boll. d. R. Accad. Med. di Roma*, An. XIX., Fasc. II.), Paladino states the relationship existing between the neuroglia and the nervous elements in the spinal cord of man, the ox, the cat, &c., as shown by his method of staining by iodide of palladium, after the removal of the medullary substance. This process brings out contemporaneously the nerve cells and the neuroglia elements. Amongst other points it shows that the medullated sheath of nerves is formed on a framework or skeleton of neuroglia tissue directly continuous with the interstitial neuroglia. This intra-medullary neuroglia has also its cells, with irregular outline. The neuroglia network about the nerve cells is well shown by this method; on the one hand it is continuous with the interstitial neuroglia, on the other, delicate fibres can be seen to pass on to the nerve cells. Further, the method shows the continuation of the neuroglia fibres into the pia mater.

(*To be continued.*)

ASSOCIATION FRANÇAISE DE CHIRURGIE.

THE Ninth Congress of this Society will open at the Faculty of Medicine, Paris, on Monday, October 21, 1895, under the presidency of Dr. Eugene Boëckel. The inaugural ceremony will take place at 2 o'clock, p.m. Two questions have been set down for discussion by the Congress: 1. The surgery of the lung (the pleura excepted), introduced by M. Reglus. 2. Early or late operative interference in solutions of continuity of the bones (the cranium and the spine excepted), introduced by M. Heydenreich. Members of the Congress are requested to forward, at latest by the 15th of August, the title and conclusions of their communications to M. Lucien Picqué, Secretary-General, Rue de l'Isly, 8, Paris. All inquiries relative to the Congress should be addressed to the Secretary-General.

PART IV. MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—**JAMES LITTLE, M.D., F.R.C.P.I.**

General Secretary—**WILLIAM THOMSON, F.R.C.S.I.**

SECTION OF MEDICINE.

President—**WALTER G. SMITH, M.D., President of the Royal College of Physicians of Ireland.**

Sectional Secretary—**A. N. MONTGOMERY, M.R.C.P.I.**

Friday, February 22, 1895.

The **PRESIDENT** in the Chair.

Notes upon some Urinary Tests, with Experiments.

THE PRESIDENT made a communication upon some points in urinary chemistry, and showed several experiments. He said that the determination of the acidity or basicity of urine consists essentially in estimating the relative proportions of the two phosphates—viz., Na_2HPO_4 , and NaH_2PO_4 . The latter, or monometallic phosphate forms, on an average, 57 per cent. of the total PO_4 . Amphoteric reaction towards litmus depended upon a certain relative proportion of these two salts. Fresh milk exhibits an amphoteric reaction. The relative amounts of these two phosphates are best determined by Freund's method. He also made some remarks upon the chemistry of the urates, upon which Sir W. Roberts has shed much light.

The President referred to two other phenomena of some interest, viz.—(a) The nature of the precipitate so often obtained in dark bilious urine by the addition of acetic acid, and not cleared up by heat. (b) The nature of the precipitate sometimes obtained by

floating urines, albuminous or not, over acetic acid. This precipitate is not redissolved by heat.

DR. ALFRED SCOTT said that in testing for albumen by heat and acetic acid, if the acetic acid was first added, and the urine was then slowly heated to boiling point, acid-albumen was formed, which was not precipitated by boiling. If the acetic acid was first added the urine must be very quickly raised to the boiling point. If the urine was first boiled and then the acetic acid added, the albumen was thrown into a coagulable form at once.

DR. J. WILLIAM MOORE had often observed the reaction produced by the addition of an acid to dark-coloured urine. It was often very puzzling to know whether the cloudiness was due to albumen or to a urate precipitate. He thought, however, that they could be at once distinguished by the fact that the urate imprisoned the colouring matter of the urine, whereas the albuminous precipitate was white.

Ecchymosis following Insane Excitement.

DR. W. R. DAWSON related the case of a married woman, fifty years of age, who was admitted to the Royal Edinburgh Asylum in 1890. She suffered then and ever since from melancholia, accompanied by delusions of suspicion, with exacerbations every 10 or 14 days, in the form of outbursts of violent indignant grief, during which she was very noisy and abusive. During the first two years of her illness these attacks were sometimes followed by eruptions of an erythematous character, but last April—four years from the commencement of the attack—a number of purpuric spots appeared after a fit of excitement, and every such fit was followed by spots of ecchymosis so long as the case remained under his observation, the spots varying much in size, and appearing from time to time on nearly all parts of the body. Once there was some blood evacuated by the mouth, and once a small spot appeared on the tongue. The temperature was not raised. The heart's action was weak.

Only one similar case (that of Drs. Savage and Price Smith; which, however, differs in some important points) appears to have been recorded in the insane, but there would seem to be some resemblance to the haemorrhages described as occasionally following hysterical fits.

From recent statements on the pathology of ecchymosis it may be concluded that the causative factors were arterial dilatation due to the influence of mental excitement and predisposed to by diathesis and time of life; sluggishness of venous return from cardiac weakness; and, lastly, some undetermined variety of vascular degenera-

tion, the assumption of the latter being necessary to explain the long period which elapsed before the appearance of the haemorrhages.

The PRESIDENT thought that Dr. Dawson's case was a very rare one, and that the different views as to the pathology of the haemorrhages very interesting. There were many cases of purpura following the taking of potassium iodide, and less frequently after bromides, which it would be very hard to fit in with the views expressed by Unna and others as to the pathology. In Dr. Dawson's case he noticed that the haemorrhage had occurred before the bromide was given.

The Section then adjourned.

MALE NURSES.

A CORRESPONDENT sends us the following authentic conversation between a military sister and her orderly: "Well, sister, I don't seem to be up to your ideas of a nurse, but I did good work amongst cholera, where no woman was, before ever I came into the Medical Staff Corps." "Tell me about it," I said, still wondering why I found my orderly such a trying nurse whilst the medical officers all had such a high opinion of him. "I and another man were put in charge of three cases of cholera; we were put right away by ourselves in tents. The doctor prescribed for them, and left us to carry out his orders; so, as I was senior soldier, I arranged how the nursing was to be carried on. I said to the other orderly and the patients, 'There is a lot of fate about cholera; if you are to get better you will, and if you are not medicine and treatment isn't going to save you; so don't be frightened, and we shall get on very well.' I emptied the physic away and left them to nature, and what they fancied I saw they got." "And how did they get on?" I asked. "Oh, splendidly! The doctor, when he came to see them, said he never saw worse cases. He asked if I carried out his treatment carefully, and I said 'Yes,' meaning I carried it out of the tent, and he said no treatment seemed to influence them, they were so bad. Then two of them died and one recovered, and he said it was wonderful how I pulled that one through, and he recommended me for the way I looked after my patients; but you never seem to be satisfied when I am doing my best for them." "But a nurse must carry out her or his doctor's orders," I said. "Yes, of course, if he gives the right orders; but where would that cholera patient have been if I had done just as he said."—*Hospital.*

SANITARY AND METEOROLOGICAL NOTES.

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VITAL STATISTICS

For four Weeks ending Saturday, June 15, 1895.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	May 25.	June 1.	June 8.	June 15.		May 25.	June 1.	June 8.	June 15.
Armagh	28.0	35.1	35.1	21.0	Limerick	19.6	22.5	19.6	18.2
Belfast	25.0	22.3	27.9	25.0	Lisburn	8.5	12.8	21.3	25.7
Cork	16.6	11.8	21.5	21.5	Londonderry	18.8	26.7	20.4	17.3
Drogheda	17.6	22.0	22.0	35.1	Lurgan	22.8	27.4	13.7	27.4
Dublin	28.0	25.5	21.9	22.1	Newry	12.1	12.1	20.1	4.0
Dundalk	12.6	25.1	4.2	8.4	Sligo	10.2	5.1	45.7	15.2
Galway	18.9	37.8	37.8	30.2	Waterford	20.0	35.0	12.5	15.0
Kilkenny	58.6	9.4	14.2	23.6	Wexford	22.6	36.1	22.6	36.1

In the week ending Saturday, May 25, 1895, the mortality in thirty-three large English towns, including London (in which the rate was 16.3), was equal to an average annual death-rate of 17.4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20.2 per 1,000. In Glasgow the rate was 23.1, and in Edinburgh it was 15.2.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 24.3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1.2 per 1,000, the rates varying from 0.0 in eleven of the districts to 4.2 in Dundalk—the 3 deaths from all causes registered in that district comprising 1

from diarrhoea. Among the 131 deaths from all causes registered in Belfast are 2 from typhus, 2 from whooping-cough, 1 from enteric fever, and 6 from diarrhoea.

In the Dublin Registration District the registered births amounted to 177—95 boys and 82 girls; and the registered deaths to 191—92 males and 99 females.

The deaths, which are 29 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 28.5 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 28.0 per 1,000. During the first twenty-one weeks of the current year the death-rate averaged 34.4, and was 3.8 over the mean rate in the corresponding period of the ten years, 1885–1894.

The number of deaths from zymotic diseases registered was 13 being 2 over the low number for the preceding week, but 7 under the average for the twenty-first week of the last ten years. The 13 deaths comprise 2 from small-pox, 6 from influenza and its complications, 3 from whooping-cough, and 1 from enteric fever.

The deaths from small-pox were those of an unvaccinated girl aged 7 years, and of a woman aged 22 years who had been vaccinated.

Twenty-eight cases of small-pox were admitted to hospital, being 16 in excess of the admissions in the preceding week and 13 over the number admitted in the week ended May 11. Sixteen small-pox patients were discharged, 3 died, and 53 remained under treatment on Saturday, being 9 over the number in hospital at the close of the preceding week. This number is exclusive of 30 convalescents from the disease under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

The number of cases of scarlatina admitted to hospital was 7, being 5 under the admissions in the preceding week: 5 patients were discharged, and 54 remained under treatment on Saturday, being 2 over the number in hospital on Saturday, May 18.

The hospital admissions for the week included, also, 7 cases of enteric fever, against one case admitted during the preceding week: 21 cases of the disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 44 in the week ended May 11 to 25 in the following week, rose to 38, or 13 over the average for the corresponding week of the last ten years. The 38 deaths comprise 20 from bronchitis and 14 from pneumonia or inflammation of the lungs.

In the week ending Saturday, June 1, the mortality in thirty-three large English towns, including London (in which the rate was 15.5), was equal to an average annual death-rate of 17.2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21.4 per 1,000. In Glasgow the rate was 22.0, and in Edinburgh it was 22.2.

The average annual death-rate in the sixteen principal town districts of Ireland was 23.1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1.4 per 1,000, the rates varying from 0.0 in ten of the districts to 13.5 in Wexford—the 8 deaths from all causes registered in that district comprising 3 from whooping-cough. Among the 117 deaths from all causes registered in Belfast are 1 from measles, 1 from scarlatina, 1 from diphtheria, 1 from simple continued fever, 1 from enteric fever, and 2 from diarrhoea. The 16 deaths in Limerick comprise 2 from scarlatina, and the 17 deaths in Londonderry comprise 1 from diphtheria and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 223—87 boys and 136 girls; and the registered deaths to 179—97 males and 82 females.

The deaths, which are 19 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26.7 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the district, the rate was 25.5 per 1,000. During the first twenty-two weeks of the current year the death-rate averaged 34.0, and was 3.7 over the mean rate in the corresponding period of the ten years, 1885-1894.

Eighteen deaths from zymotic diseases were registered, being 5 over the low number for the preceding week, but 1 under the average for the twenty-second week of the last ten years. They comprise 2 from small-pox, 1 from scarlet fever (scarlatina), 6 from influenza and its complications, 1 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 3 from diarrhoea, and 1 from erysipelas. The deaths from small-pox are those of an unvaccinated female aged 18 years and of a male 8 years old who had been vaccinated.

The number of cases of small-pox admitted to hospital was 10, being a decline of 18 as compared with the admissions in the preceding week and 2 under the number admitted in the week ended May 18: 21 small-pox patients were discharged, 1 patient died, and 41 remained under treatment on Saturday, being 12 under the number

in hospital on Saturday, May 25. This number is exclusive of 34 convalescent patients in the South Dublin Union Small-pox Hospital Kilmainham.

During the week ended May 18, 12 cases of scarlatina had been admitted to hospital; in the following week the admissions fell to 7, and this week they further declined to 5. There were 55 cases of the disease in hospital on Saturday, being 1 over the number in hospital at the close of the preceding week.

Only 2 cases of enteric fever were admitted to hospital, being 5 under the admissions for the preceding week: 22 cases of this disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 32, being 5 in excess of the average for the corresponding week of the last ten years, but 6 under the number for the week ended May 25. The 32 deaths comprise 17 from bronchitis and 11 from pneumonia or inflammation of the lungs.

In the week ending Saturday, June 8, the mortality in thirty-three large English towns, including London (in which the rate was 14.1), was equal to an average annual death-rate of 15.5 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19.7 per 1,000. In Glasgow the rate was 20.7, and in Edinburgh it was 18.6.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 23.5 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1.4 per 1,000, the rates varying from 0.0 in thirteen of the districts to 2.1 in Belfast and Cork—the 146 deaths from all causes registered in Belfast comprising 1 from whooping-cough, 1 from simple continued fever, 4 from enteric fever, and 5 from diarrhoea. The 31 deaths in Cork comprised 2 from whooping-cough and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 159—76 boys and 83 girls; and the registered deaths to 148—86 males and 62 females.

The deaths, which are 15 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22.1 in every 1,000 of the population. Omitting the death of one person admitted into hospital from without the district, the rate was 21.9 per 1,000. During the first twenty-three weeks of the current year the death-rate averaged 33.5, and was 3.5 over the mean rate in the corresponding period of the ten years, 1885-1894.

The number of deaths from zymotic diseases registered was 15, being 5 below the average for the corresponding week of the last ten years, and 3 under the number registered in the previous week. The 15 deaths comprise 3 from small-pox, 3 from influenza and its complications, 2 from whooping-cough, 2 from enteric fever, and 4 from diarrhoea. The deaths from small-pox were those of three unvaccinated children, aged respectively 2, 5, and 10 years.

Ten cases of small-pox were admitted to hospital, being equal to the admissions in the preceding week, but 18 under the number admitted in the week ended May 25. Thirteen small-pox patients were discharged, 3 died, and 35 remained under treatment on Saturday, being 6 under the number in hospital at the close of the preceding week. This number is exclusive of 30 convalescent patients under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

Twelve cases of scarlatina were admitted to hospital, against 5 admissions in the preceding week, and 7 in the week ended May 25. Eleven patients were discharged, and 56 remained under treatment on Saturday, being 5 over the number in hospital on that day week.

The hospitals admissions included, also, 6 cases of enteric fever, being 4 over the number of cases of that disease admitted during the preceding week, but one under the admissions for the week ended May 25. Twenty-five cases of this disease remained under treatment in hospital on Saturday.

Diseases of the respiratory system caused 32 deaths, being equal to the number for the preceding week and 5 over the average for the 23rd week of the last ten years. The 32 deaths comprise 13 from bronchitis and 14 from pneumonia or inflammation of the lung, and 2 from pleurisy.

In the week ending Saturday, June 15, the mortality in thirty-three large English towns, including London (in which the rate was 14.4), was equal to an average annual death-rate of 15.4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17.1 per 1,000. In Glasgow the rate was 17.3, and in Edinburgh it was 16.5.

The average annual death-rate in the sixteen principal town districts of Ireland was 22.5 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1.7 per 1,000, the rates varying from 0.0 in nine of the districts to 4.7 in London-

derry—the 11 deaths from all causes registered in that district comprising 1 from scarlatina and 2 from diphtheria. Among the 131 deaths from all causes registered in Belfast are 2 from diphtheria, 5 from enteric fever, and 8 from diarrhoea.

In the Dublin Registration District the registered births amounted to 230—111 boys and 119 girls; and the registered deaths to 155—78 males and 77 females.

The deaths, which are 20 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23.1 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 22.1 per 1,000. During the first twenty-four weeks of the current year the death-rate averaged 33.1, and was 3.3 over the mean rate in the corresponding period of the ten years, 1885–1894.

The number of deaths from zymotic diseases registered was 16, being 1 over the low number for the preceding week but 6 under the average for the 24th week of the last ten years. The 16 deaths comprise 5 from influenza and its complications, 3 from whooping-cough, one from diphtheria, one from simple continued fever, 3 from enteric fever, and one from erysipelas.

Thirteen cases of small-pox were admitted to hospital, being 3 over the number of admissions in the preceding week. Nine small-pox patients were discharged, 2 died, and 37 remained under treatment on Saturday, being 2 over the number in hospital on that day week. This number is exclusive of 25 convalescents still under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

The number of cases of scarlatina admitted to hospital was 11, being one under the admissions for the preceding week. Nine patients were discharged, and 58 remained under treatment on Saturday, being 2 over the number in hospital at the close of the preceding week.

The hospital admissions included, also, 2 cases of enteric fever, being 4 under the number of cases of that disease admitted during the preceding week: 25 cases of the disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 24, being 2 below the average for the corresponding week of the last ten years, and 8 under the number for the previous week. The 24 deaths comprise 14 from bronchitis and 7 from pneumonia or inflammation of the lungs.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of May, 1895.

Mean Height of Barometer,	-	-	-	30.111 inches.
Maximal Height of Barometer (on 2nd, at 9 a.m.),	30.614	"		
Minimal Height of Barometer (on 31st, at 11				
p.m.),	-	-	-	29.436 "
Mean Dry-bulb Temperature,	-	-	53.8°.	
Mean Wet-bulb Temperature,	-	-	49.8°.	
Mean Dew-point Temperature,	-	-	45.9°.	
Mean Elastic Force (Tension) of Aqueous				
Vapour,	-	-	-	.311 inch.
Mean Humidity,	-	-	-	75.4 per cent.
Highest Temperature in Shade (on 30th),	-	71.9°.		
Lowest Temperature in Shade (on 21st),	-	36.2°.		
Lowest Temperature on Grass (Radiation) (on				
21st),	-	-	-	31.9°.
Mean Amount of Cloud,	-	-	37.3 per cent.	
Rainfall (on 3 days),	-	-	0.177 inch.	
Greatest Daily Rainfall (on 31st),	-	-	0.070 "	
General Directions of Wind,	-	-	E., S.E., W.	

Remarks.

A beautiful month—bright and dry, without any severe nipping night frosts. Prevalent easterly sea breezes by day along the east coast of Ireland tempered the heat of an often unclouded sun. The amount of cloud was very low—only 37.3 per cent. At 9 a.m. it rose to 47.1 per cent., but at 9 p.m. it fell to 27.4 per cent. Rain fell in Dublin on only 3 days, and the total measurement was only about one-sixth of an inch, or slightly over one-twelfth of the average rainfall for May.

In Dublin the arithmetical mean temperature (54.3°) was decidedly above the average (52.0°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 53.8°. In the thirty years ending with 1894, May was coldest in 1869 (M. T. = 48.2°); in 1885 (M. T. = 48.7°); in 1879 ("the cold year") (M. T. = 48.8°); and in 1894 (M. T. = 49.2°). It was warmest in 1893 (M. T. = 56.7°); in 1868 (the "warm year") (M. T. = 55.8°); and in 1875 (M. T. = 54.9°). In 1886 the M. T. was 50.5°; in 1887, 51.8°; in 1888, 52.5°; in 1889, 54.6°; in 1890, 53.2°; in 1891, only 49.6°; and in 1892, 53.8°.

The mean height of the barometer was 30.111 inches, or 0.122

inch above the corrected average value for May—namely, 29.989 inches. The mercury rose to 30.614 inches at 9 a.m. of the 2nd, and fell to 29.436 inches at 11 p.m. of the 31st. The observed range of atmospheric pressure was, therefore, 1.178 inches.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 53.8°, or 6.0° above the value for April, 1895 (47.8°). Using the formula, *Mean Temp. = Min. + (max. - min. × .47)*, the value was also 53.8°, or 2.2° above the average mean temperature for May, calculated in the same way, in the twenty-five years, 1865-89, inclusive (51.6°). The arithmetical mean of the maximal and minimal readings was 54.3°, compared with a twenty-five years' average of 52.0°. On the 30th the thermometer in the screen rose to 71.9°—wind, E.; on the 21st the temperature fell to 36.2°—wind, E.S.E. The minimum on the grass was 31.9°, also on the 21st.

The rainfall amounted to only 1.177 inch, distributed over only 3 days, thus establishing a record for dryness. The average rainfall for May in the twenty-five years, 1865-89, inclusive, was 2.030 inches, and the average number of rainy days was 15.4. The rainfall and the rainy days, therefore, were much below the average. In 1886 the rainfall in May was very large—5.472 inches on 21 days; in 1869, also, 5.414 inches fell on 19 days. On the other hand, in 1871, only .378 inch was measured on 9 days; in 1876, only .798 inch fell on 6 days; in 1887, only .882 inch on 10 days; and in 1888, only .978 inch on 11 days. In 1890, 2.438 inches fell on 17 days. In 1891 May was the first month in which the rainfall exceeded the average. It amounted to 2.792 inches on 17 days. In 1892 the large amount of 4.177 inches fell on 19 days. In 1893 the fall was 1.666 inches on 10 days; and in 1894, 3.558 inches on 17 days.

Solar halos were seen on the 3rd and 4th, lunar halos on the 2nd, 3rd, and 9th, and an aurora on the 2nd. High winds were noted on only 3 days, attaining the force of a gale on the 31st only. Thunder was heard on the 1st and 24th. Hail and sleet fell on the 1st. The atmosphere was slightly foggy on the 3rd and 4th.

During the month the thermometer did not fall below 32° in the screen, but it indicated frost on the grass on the night of the 21st. The mean minimal temperature on the grass was 41.8°, compared with 37.6° in May, 1894; 45.6° in 1893, 41.3° in 1892, 37.7° in 1891, 42.2° in 1890, 42.4° in 1889, 37.5° in 1888, and 37.9° in 1887.

The period ended Saturday, the 4th, was changeable, but for the

most part favourable. The nights were generally very cold, but bright sunshine raised the temperature in the daytime so considerably that the daily range on some occasions amounted to between 20° and 30° at some inland stations—in London, on Thursday the 2nd, max. 64° , min. 35° , range 29° ; at Parsonstown, on Friday, the 3rd, max. 61° , min. 36° , range 25° . On Wednesday, the 1st, splendid clouds formed and thunder and hail showers occurred in the east of Ireland. In Dublin two peals of thunder were heard about 2 p.m., followed by a heavy shower of soft hail and sleet. The barometer at that time rose fast and an anticyclone with central readings above 30.60 inches became established over the British Islands. A good deal of cirriform cloud formed, in which solar halos by day and lunar halos by night were developed. The air was very "thin" and nipping on Thursday and Friday, but it became softer and more genial on Saturday. In Dublin the barometer rose to 30.614 inches at 9 a.m. of Thursday (wind W.). On Saturday the thermometers rose to 62.7° in the screen, having fallen to 38.2° on Friday. Rain fell on the 1st to the amount of .038 inch. Easterly winds were the most prevalent.

Exceptionally fine, dry, bright weather prevailed during the week ended Saturday, the 11th. Temperature, in particular, showed a decided advance, and the evenings were for the most part summerlike. Until Wednesday North-Western Europe was covered by a large area of high atmospheric pressure (anticyclone), with slight or moderate gradients. On Monday and Tuesday the barometer stood as high as 30.70 inches, or slightly more, over Scandinavia. Light, variable winds prevailed, except on the Continent and in the S.E. and S. of England, where a fresh north-easterly breeze was blowing. The amount of cloud was small, so that much bright sunshine was recorded by day, while the nights were very sharp. As the week advanced, shallow depressions, of irregular and changing shape, advanced northwards across France and the Bay of Biscay from the Peninsula. These disturbances caused heavy rains in the South of France and thundershowers later on in several parts of the British Isles and of the Continent. No general break-up of the weather, however, occurred, and on Friday the distribution of atmospheric pressure again became anticyclonic. The amount of bright sunshine was unusually large—in London, 80.3 hours; at Cambridge, 88.3 hours or 83 per cent. of its possible duration; in the Phoenix Park, Dublin, 66.1 hours; at Markree Castle, 62.8 hours; at Armagh, 60.0 hours; at Parsonstown, 58.4 hours, and at Valentia Island, 54.0 hours. In Dublin the mean height of the barometer was 30.188 inches,

pressure falling from 30.427 inches at 9 p.m. of Sunday (wind, E.) to 29.900 inches at 7 p.m. of Wednesday (wind, also E.). The corrected mean temperature was 53.0°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 53.7°. On Monday the screened thermometers sank to 40.9°; on Saturday they rose to 63.8°. The prevailing wind was easterly. There was no measurable rainfall. On Thursday the thermometer rose to 76° in the shade in London and at Cambridge.

During the week ended Saturday, the 18th, the weather was by no means as settled as in the previous week, but the prevailing character of dryness was maintained, especially in Ireland. At first temperature was high—the thermometer rising in London to 79° on Sunday, 78° on Monday, and 75° on Tuesday; but it afterwards fell away greatly, so that the last three days were really cold. This decided change was brought about by the substitution of an area of low atmospheric pressure for one of high pressure over the S. of Scandinavia, Denmark, and the Netherlands. In this region the barometer stood at 30.3 inches on Sunday morning, but only at 29.2 inches on Thursday morning. On Sunday a large, but shallow, depression lay over Ireland, where a grateful fall of soft, warm rain occurred in the course of the day. Monday was a warm day, the thermometer marking 67.7° in Dublin and 69° at Parsonstown. Tuesday was ushered in by a vapour fog, but this soon dispersed and fair, warm weather prevailed. At this time a depression was advancing from N.W. to the N. of Scotland, whence it passed south-eastwards to Denmark, growing much deeper as it travelled. Under the influence of this disturbance, the wind veered to N. and freshened, with a serious fall of temperature, an increase of cloud, and in Great Britain showers of cold rain, sleet, and hail. May—in a word—gave place to March. On Friday the air was particularly dry and searching. In Dublin the mean height of the barometer was 30.106 inches, pressure ranging from 30.373 inches at 9 a.m. of Tuesday (wind W.) to 29.820 inches at 7.30 a.m. of Saturday (wind W.N.W.). The corrected mean temperature was 55.0°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 54.1°. On Monday the screened thermometers rose to 67.7°, on Saturday they fell to 39.0°. Rain fell on Sunday to the amount of .068 inch. The prevalent winds were—first, W., afterwards N.

Exceptionally fine weather prevailed throughout the week ended Saturday, the 25th. In Dublin the period was rainless, but in many parts of Great Britain and Ireland thundershowers occurred in the latter half of the week. On Sunday morning a rather deep

depression was found lying over Holland, Denmark, and Belgium—at 8 a.m. its centre was near the Hague. This system caused cold northerly winds in the British Isles and showers at many places in Scotland and England—in Ireland the weather was generally dry but cold. After Sunday, atmospheric pressure became comparatively uniform over Western Europe, but several shallow depressions developed here and there, causing local electrical disturbances in many places. On Wednesday evening a sharp thunderstorm broke over Paris, where the resulting rainfall was as much as .67 inch. On Thursday a thunderstorm occurred in London and thundershowers fell in many parts of England. Similarly on Friday, electrical cumuli and cirro-cumuli came up from S. to the westward of Dublin, and in the afternoon heavy thundershowers occurred a few miles inland, the weather remaining fine and dry in the city and along the coast. Saturday was a bright, warm day, with a moderate to fresh westerly wind. In Dublin the mean height of the barometer was 29.894 inches, pressure falling to 29.748 inches at 7 p.m. of Tuesday (wind S.E.) and rising to 30.107 inches at 9 15 p.m. of Saturday (wind W.N.W.). The corrected mean temperature was 51.8°. The mean dry bulb reading at 9 a.m. and 9 p.m. was also 51.8°. On Tuesday morning the thermometer sank to 36.2° in the screen and to 31.9° on the grass in Dublin. The maximum was 64.7° on Thursday. On the first three days temperature failed to reach 60° in the shade. Easterly winds prevailed except on Saturday. There was no rainfall in the city—at Glen-na-Smoel Water-works .75 inch of rain fell in Friday's thunderstorm.

Very fine, summerlike weather prevailed during the greater part of the period from the 26th to the 31st inclusive, but after a burst of heat on Thursday, the 30th, thunderstorms and rain occurred in Great Britain and rain with strong southerly winds in Ireland. Until Wednesday, atmospheric pressure ruled high in the British Islands, and the weather was anticyclonic in character—that is, fine, dry, and bright. Off the S.E. coast of England, much fog prevailed at this time, and temperature in consequence remained very low—on Monday the thermometer did not exceed 49° at the North Foreland, whereas it rose to 74° in London and at Cambridge, and to 75° at Loughborough and Oxford. In the centre and west of Ireland on this day much cloud prevailed and slight showers fell in places. On Wednesday a decided fall of the barometer set in and gradients for southerly winds became somewhat steep. With the coming of the S. wind temperature rose fast—the maxima on Thursday being 72° in Dublin, 77° at

Parsonstown, 80° in Liverpool, 82° at York, 83° at Oxford and Loughborough, 85° in London, and 87° at Cambridge. Thunderstorms followed in nearly all parts of England, and at Cambridge rain and hail fell to the amount of 1.01 inches. On Friday, the 31st, the S. wind blew freshly in Dublin, and at 9.30 p.m. rain fell heavily for a short time, the wind afterwards freshening to a gale of brief duration. At 11 p.m. the barometer fell to 29.436 inches. In Dublin the barometer rose to 30.341 inches at 9 a.m. of Monday (wind, E.) and fell to 29.436 inches at 11 p.m. of Friday (wind, S.S.E.). On Wednesday the thermometer fell to 46.1° in the screen, on Thursday it rose to 71.9°. The rainfall was .070 inch on Friday only. The prevalent winds were E. and S.E.

The rainfall in Dublin during the five months ending May 31st amounted to 10.410 inches on 68 days, compared with 12.709 inches on 90 days in 1894, 7.908 inches on 66 days in 1893, 10.099 inches on 80 days in 1892, only 5.995 inches on 63 days in 1891, 11.483 inches on 76 days in 1890, 10.476 inches on 91 days in 1889, 9.068 inches on 69 days in 1888, 6.489 inches on 62 days in 1887, and a twenty-five years' average of 10.496 inches on 81.6 days.

It may be remembered that on Saturday, May 28th, 1892, 2.056 inches of rain were measured at this station, 1.900 inches having fallen within 6 hours, or at the rate of 7.6 inches in 24 hours. No such measurement had been recorded in Dublin since October 27, 1880, when 2.736 inches of rain fell. May 28, 1892, was only the third occasion within the past thirty years on which the rainfall exceeded 2 inches within 24 hours in Dublin.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in May, 1895, was 0.275 inch, distributed over only 4 days. Of this quantity .100 inch fell on the 31st. The total fall since January 1st, 1895, equals 12.845 inches on 58 days, compared with 15.696 inches on 85 days in 1894, and 9.565 inches on 65 days in 1893.

At Clonkeevin, Killiney, Co. Dublin, the rainfall in May was 0.12 inch on 3 days—0.04 inch being measured on the 1st, 12th, and 31st respectively. The average rainfall in May at this station for the ten years, 1885–1894 inclusive, was 2.45 inches on 15 days. Five rainy days was the lowest number which had been observed in any month previously.

PERISCOPE.

FRIEDRICHSHALL WATER.

We record with interest the successful opening of a new spring at Friedrichshall. The world-famous Friedrichshall spring, which has been continuously worked for upwards of fifty years, and was referred to by Baron Liebig as "a Treasure of Nature," has of late given indications that the combination of saline deposits which gave it its value was becoming exhausted. Geologists were of opinion that this was simply due to the dissolving action of the water upon that portion of the vein of deposits which fed the spring, and that the same vein could as easily be struck and worked by another shaft. Borings were accordingly made, and a new spring found, with the satisfactory result that the water drawn therefrom proves to be practically identical with that originally yielded by the old Friedrichshall spring. The following analysis by Professor B Fischer, of Breslau, compares with that of the old spring made by Professor von Liebig in the year 1846:

Parts in 1,000.

—	Fischer, 1894	Liebig, 1846
Sulphate of Soda - - -	5.9461	6.0560
" Magnesia - - -	5.9624	5.1502
" Lime - - -	0.7408	1.3456
" Potash - - -	0.1707	0.1982
Chloride of Sodium - - -	7.3112	7.9560
" Magnesia - - -	4.7135	3.9390
Bromide of Magnesia - - -	0.0072	0.1140
Carbonate of Soda - - -	0.3168	0.0000
" Magnesia - - -	0.0113	0.5198
" Lime - - -	0.2198	0.0147
Carbonic Acid - - -	0.2338	0.4020
Silicic Acid - - -	0.0012	Traces
Oxide of Iron - - -	Traces	Traces
Alumina - - -	Traces	Traces
Total - - -	25.6443	25.6955

The valuable combination of sulphates of soda and magnesia (in about equal proportions) with the chlorides of sodium and magnesia constitute the chief and unique value of Friedrichshall water. This combination renders the taste of the water singularly pleasant, wholesome, and cleansing to the palate. It has for many years enabled it to be used as an aperient, occasionally or habitually, with

reliable and agreeable results and without violence. The results of experiments carefully conducted at a number of hospitals in Germany demonstrate that even when taken continuously Friedrichshall water gives rise to no derangement of the stomach or any other unpleasant secondary effects. Unlike most mineral aperients, its dose may, during prolonged use, be progressively reduced. After a careful examination of the water, of its analysis, and of the ascertained results of its action as a customary aperient for occasional or continuous use, we can recommend the Friedrichshall water, as now bottled at the new spring, as being in every respect equal to the Friedrichshall water which, for the last fifty years, has been a favourite aperient with the medical profession on the Continent of Europe and in this country.—*British Medical Journal*, June 1st, 1895.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

The Standard Malt Extract.

The Standard Malt Extract Company, Limited, whose works are at Willow Mills, Clayton-le-Moors, Lancashire, have submitted for our inspection samples of the Extract of Malt manufactured by them, and to which the name of "Standard Malt Extract" has been assigned. The process of manufacture of this article which has been adopted, besides rendering the product rich in carbohydrates, mineral phosphates, and albuminoids, retains the greatest possible amount of diastase (or amylopsin) present in the best malted barley and insures its keeping qualities. The dose for an adult is two teaspoonfuls, for a child one teaspoonful, to be taken either with or without milk. A liquid extract has been prepared for those who object to the thickness of the ordinary malt extract. It is very palatable and contains all the diastase and nutritive properties of the malt. The Company have also placed in the market a preparation of the Standard Malt Extract in combination with cod-liver oil. This preparation, although containing 25 per cent. of the finest Norwegian cod-liver oil, is so palatable that children take it readily, in many instances even eagerly. The cod-liver oil is so thoroughly incorporated with the malt extract that the nauseous smell and taste of the oil are entirely masked. All the above preparations are sold in 6 oz. glass jars for one shilling a piece, so that they are within the reach of those who enjoy but a modest income. The jars bear upon them the Standard brand.

In Memoriam.

SIR GEORGE HORNIDGE PORTER, Bart., M.D., Univ. Dubl.;

M.CH. (*Hon. Causa*), Univ. Dubl.; M.D. (*Hon. Causa*),
Univ. Glasg.; F.R.C.S.I.

ON the evening of Sunday, June 16th, there passed away in the person of SIR GEORGE PORTER, one of the leaders of the Medical Profession, and in many ways a representative and distinguished man. Although his health had been steadily failing for a considerable period, it was only a short time before his death that SIR GEORGE gave up to his illness, admitted that he was ill, and sought that medical advice and aid which, willingly tendered, was powerless to stay the ravages of disease and to stem the tide of death. A failing heart, with its wonted complications and sequelæ, was the immediate cause of the tragic event, which has cost Irish Surgery one of its brightest ornaments in modern times.

GEORGE HORNIDGE PORTER was the only surviving son of William Henry Porter, an ex-Scholar of Trinity College, and a Doctor of Medicine of the University of Dublin, as well as Fellow, ex-President, and Professor of Surgery of the Royal College of Surgeons in Ireland, which body he also represented on the General Council of Medical Education and Registration of the United Kingdom from July 13, 1860, until his sudden death on April 27, 1861. GEORGE PORTER was born in his father's house, 21 Kildare-street, Dublin, on November 24, 1822. He was educated at home and afterwards in Trinity College, graduating in Arts in the University of Dublin in 1845, and in Medicine in 1848. He did not proceed to the degree of M.D. in his Alma Mater until 1865, and in 1876 the University conferred upon him the degree of Master of Surgery, *honoris causa*.

On November 6, 1838, GEORGE PORTER was indentured for five years to the late Mr. Josiah Smyly, then one of the Surgeons to the Meath Hospital and County Dublin Infirmary. In this way PORTER's connection began with that hospital in which his father had served as surgeon from 1819, and to which he was himself appointed surgeon in 1849. Father and son held office together for twelve years, and for forty-six years the subject of this memoir acted as Clinical Surgeon, and in this capacity he taught successive generations of students for well-nigh half a century.

In the same year that his father died, GEORGE PORTER married Julia, the second daughter of the late Isaac Bond, Esq., of Flimby, Cumberland. By her he had two sons. The younger, George, died

of scarlatina at an early age. The elder, William Henry, was born in 1862, served for some time as Captain in the 3rd Battalion of the Royal Irish Regiment (Wexford Militia), and was called to the Irish Bar in 1888. He has succeeded his father as second baronet.

Honours now showered thickly upon **GEORGE PORTER**. In July, 1861, he was appointed Consulting Surgeon to the Coombe Lying-in Hospital. In 1866 he was elected Surgeon to Simpson's Hospital. In 1868 he was chosen President of his College and also President of the Pathological Society of Dublin. In the following year he became Surgeon-in-Ordinary to Her Majesty the Queen in Ireland. He was appointed Consulting Surgeon to St. Mark's Ophthalmic Hospital in 1876, President of the Dublin Branch of the British Medical Association in 1878, Corresponding Member of the Edinburgh Medico-Chirurgical Society in 1880, and Consulting Surgeon to Dr. Steevens' Hospital in 1881. On the occasion of the meeting of the British Medical Association in Glasgow, in 1888, the ancient University of that city conferred on **SIR GEORGE** the honorary degree of Doctor of Medicine. His social standing was also fully recognised. In 1878 he was appointed a Justice of the Peace for the Co. Wexford, in which he had purchased a valuable landed property. He afterwards was made a Deputy Lieutenant for the same county. He became a Governor of the Blue Coat School, of the Westmoreland Lock Hospital, and of the Wexford District Lunatic Asylum. He was a member of the Kildare-street, University, and Royal St. George Yacht Clubs.

His conspicuous professional standing now received due recognition in high places. In 1883 he received the honour of Knighthood from Her Majesty the Queen at Windsor, "to mark his high position amongst the surgeons of the United Kingdom"; and a Baronetcy was conferred upon him on the auspicious occasion of the Queen's birthday in 1889. Besides these State honours, there fell to his lot the distinction of being appointed Regius Professor of Surgery in the University of Dublin, on the resignation of the late Mr. William Colles in 1891. A year later he was chosen to be Consulting Surgeon to Sir P. Dun's Hospital.

SIR GEORGE PORTER was undoubtedly an able and skilful, as well as a cautious and painstaking-surgeon. His opinion was well worth having, and his ripe experience, sound judgment, and habitual caution enhanced its value upon all occasions. His literary ability was considerable, and while not a prolific writer, his contributions to surgical literature were neither few nor unimportant. As a surgical writer, **SIR GEORGE** has been freely quoted in all modern systems of surgery both in Great Britain and Ireland, and in America. We append a fairly complete list of his writings:—

1857. Clinical Lectures on Surgery.—*Dub. Med. Press.*

1858. Case of Amputation of the Thigh, in which silver-wire sutures were employed.—*Dub. Hospital Gazette.*

1860. A new mode of Deligating the Femoral Artery.
Excision of the Elbow Joint for Compound Fracture.—*Dub. Quar. Jour. Med. Science.*

1863. The Knee-Joint laid open for Excision; extensive disease discovered; resection abandoned. Amputation of the Thigh by "Teale's" Rectangular Flaps.
Symes' Operation for the Radical cure of Reducible Hernia.
A new mode of arresting Venous Hæmorrhage after Amputation.
Extraction of a Hair-pin from the Urinary Bladder.—*Dub. Quar. Jour. Med. Science.*

1864. Excision of four and a half inches of the Ulna for disease.
On the importance of Excising a small portion of the Wind-pipe in the operation of Tracheotomy.
Amputation through the Condyles of the Femur for Gangrene of the Leg, following on Fracture of the Thigh Bone.—*Dub. Quar. Jour. Med. Science.*

1865. Four successful cases of Stone in the Urinary Bladder removed by the operation of Lithotomy.
Aneurism of the Popliteal Artery cured by Digital Compression in twenty-six hours and forty-five minutes.
Castration; the vessels of the cord secured by acupressure.
Observations on the treatment of Colles' Fracture with "Gordon's Splint."—*Dub. Quar. Jour. Med. Science.*

1866. Observations on Crushing Stone in the Bladder.—*Dub. Quar. Jour. Med. Science.*

1867. Lithotripsy and its after-treatment.
A large Aneurism of the Subclavian Artery treated by acupressure on the first stage of the Axillary Artery, and subsequently by direct pressure on the Arteria Innominate.
Complete Excision of the Elbow-Joint for Strumous Disease.
Excision of a large portion of the Upper Jaw for Epuloid Disease.
Excision of a large-sized Epulis springing from the Lower Jaw.—*Dub. Quar. Jour. Med. Science.*

1870. A large Cystic Adenoid Tumour of the Face of thirty-six years' growth; Excision—Recovery.
A large Encysted Tumour of the Neck, treated by Drainage and Injection; long-continued suppuration—Recovery.—*Dub. Quar. Jour. Med. Science.*

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1873. Tight Organic Stricture of Male Urethra ; a large portion of a Catheter lodged in the Bladder; the Stricture forcibly dilated ; the foreign body extracted—Recovery.

A portion of a gutta-percha Bougie broken off in the Bladder ; calculous formation around it ; a modification of "Allerton's Lithotomy"—Recovery.

Nine inches and a half in length of a gum elastic Catheter lodged in Male Bladder, surrounded by phosphatic deposit ; a modification of "Allerton's Lithotomy"—Recovery.

1874. Case of Cystic Disease of the Ovary.—*Trans. Path. Soc. Dubl.*
Case of Fracture of the Os Calcis.—*Trans. Path. Soc. Dubl.*

1875. Fracture of the Tibia.—*Trans. Path. Soc. Dubl.*

1884. Foreign Bodies in the Knee Joint.—*Trans. Acad. Med. Irel.*

SIR GEORGE PORTER delivered many eloquent and touching Addresses from time to time to the students of the Meath Hospital on the occasion of the opening of the winter Session. Of the last of these Inaugural Addresses which he gave, a friendly critic said:—"The Address does infinite credit to that distinguished gentleman's judgment as a professional man, to his heart as a kind man, and to his pen as a writer." Of the same stirring Address another critic wrote:—"Resplendent as it is for its simplicity, yet brimful of scholarly teaching, eloquent in words and masterly in composition, at once appealing to the whole nature of man—head, heart, and hand." SIR GEORGE's love for poetry was a very marked trait in his character. He was never at a loss for a quotation and was especially fond of reciting in a quiet way whole stanzas from his favourite poets. The evening before he died he made a pathetic allusion to Lord Tennyson's beautiful poem "Crossing the Bar," applying to his own case its touching and exquisite sentiment.

The subject of this memoir was a man of strong opinions and of considerable tenacity of purpose. That at one time he had enemies must be admitted, but he had lived down their enmity and gained their goodwill and esteem long before he died. On the other hand, he made fast friends without number, and it is a tribute to his high character that those who knew him most intimately esteemed him most highly and liked—yea, loved—him best. To the patients in the hospital SIR GEORGE was kindness personified. His readiness to help the wounded in mind as well as body, his quick sympathy with suffering, and his open-handed generosity sprang from the highest motives. It is no breach of confidence to add that his Christian faith shone brightly during his latest hours. He faced death bravely, happily in full possession of his mental powers, and so he "fell asleep."

J. W. M.

THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

AUGUST 1, 1895.

PART I. ORIGINAL COMMUNICATIONS.

ART. IV.—*Hernia and Taxis.** By HENRY GRAY CROLY, Fellow and Past President, Royal College of Surgeons; Senior Surgeon, City of Dublin Hospital; Consulting Surgeon to the Monkstown Hospital. Formerly Senior Demonstrator of Anatomy, Teacher of Surgery and Operative Surgery, and subsequently Examiner in Anatomy Surgery, Royal College of Surgeons in Ireland.

(Continued from page 21.)

CASE XIX.—B. W., aged fifty years, wife of a gardener, was admitted into the City of Dublin Hospital on Saturday night, April 2nd, 1870.

Previous history.—A year ago she observed for the first time a “lump in the left groin.” She had sickness of stomach, and her bowels were obstinately constipated. She sought the advice of Dr. Wyse, her medical attendant, who discovered the cause of her illness. Her bowels were acted upon and the hernia went up. The patient was directed to wear a truss, but she neglected doing so, and continued to exert herself, and went to market three times a week with fruit and vegetables in a donkey-cart, the shaking of which distressed her considerably.

On Thursday night, the 31st of March (her bowels having been confined from the previous Tuesday), the patient was seized with

* Read before the Section of Surgery in the Royal Academy of Medicine in Ireland, on Friday, April 26, 1895.

a colicky pain in the abdomen, the hernia got very large and painful, and she vomited several times a sour fluid. Slight retention of urine. The symptoms continued during the night, and on the following day castor oil was taken, which was quickly vomited. On Saturday, the 2nd of March, the Doctor endeavoured to reduce the hernia by means of the *taxis*, and administered a purgative enema by long tube. He also gave the patient a warm hip bath. These means relieved the general symptoms, but the hernia was not reduced. The vomiting continued and the spasms in the abdomen. I saw the patient at 9 30 on April 2nd, and found her in the following condition :—

Hernial countenance well marked ; abdomen distended and tympanitic ; *extremities cold* ; *great prostration* ; patient vomited several times whilst I was present. On examining the groin I observed a femoral hernia about the size of a medium-sized hen's egg ; it had ascended over Poupart's ligament, and was oval in shape on the long axis of the ligament, thus resembling somewhat an inguinal hernia, a narrow neck passing down into the femoral ring. The tumour was tense and painful to the touch.

Consultation held, and patient was placed upon a table in the ward, and brought fully under the influence of chloroform. Then a fair trial was given to the *taxis*, the thigh being flexed upon the abdomen and rotated inwards. This attempt at reduction having failed also, I proceeded to operate.

I found a very tight stricture at the neck of the sac, which I divided with Dupuytren's convex knife. A knuckle of gut, deeply congested, the size of a walnut, with a piece of omentum covered the contents. I applied a warm sponge. I did not handle the gut. The intestine and omentum were reduced with facility. I followed with my finger the intestine, to see it safely into the abdomen.

Sunday morning.—Pulse, 96 ; abdomen soft, but distended with flatus. Patient vomited some fluid ; tongue clean ; has almost entirely lost the hernial aspect ; is cheerful and quite free from pain ; her stomach is inclined to be irritable ; ordered ice.

The patient made a good recovery. I never saw so much collapse with recovery.

CASE XX.—D. F., aged eighty-three, admitted into hospital February 7th, 1872, at 7 p.m., suffering from hernia for thirty years. Reducible until Monday, February 5th. Was driving a cart (wore a double truss), when the hernia came down at right side. Patient tried to put hernia up, and failed. Applied for

medical advice from Dr. Croly (Rathfarnham) at 1 p.m. on 7th inst. Was chloroformed, and taxis employed. After admission into hospital he had an injection, and taxis was again employed.

Description of Tumour.—Tumour occupies right side of scrotum, with the testicle situated at bottom; is oval in shape, about the size of a small cocoa-nut; not very tense. Patient complains of pain over internal ring. The bowels, according to patient's account, were moved on the 6th inst., but he seems doubtful about it: Vomited slightly after taxis was first employed; the matter vomited being of a bilious character.

At 9 p.m. the night of his admission (the 7th), I, after consulting with my colleagues, operated. On cutting down to the sac, the constriction was found to be in the sac, and of an hour-glass shape. It was found necessary to open the sac. On this being done the intestine was returned after some manipulation. The wound was then closed with sutures and dressed, and the patient ordered 1 gr. doses of opium. He was also put on lime-water and milk.

Patient slept at intervals during the night. Pulse 85.

8th.—Patient to get brandy and a little chicken broth; also ordered that the 1 gr. doses of opium should be continued every third hour. The patient slept a good deal during the day; was seen again in the evening by me, when I passed a catheter, as it was remarked that the patient while sleeping passed his water in the bed. During the night the patient continued doing well. Pulse fell to 80.

9th.—The patient was seen again by me, and a light poultice was ordered to be put to his abdomen, as the neighbourhood of the wound appeared to be a little tender on pressure.

10th.—In the evening I removed the sutures. On their being withdrawn the wound looked perfectly healthy. There was not the slightest sign of suppuration. A light poultice was applied to the wound, and the patient ordered to continue his nourishment. The opium still continued. Pulse, 80.

11th.—On examining the wound this morning I discovered a little pus, showing that slight suppuration had taken place. I ordered the poultice to be continued.

12th and 13th.—Patient continues doing well. The poultice to the wound was changed for carbolic lotion dressings.

14th.—At half-past 8 a.m. the patient had a slight motion from the bowels, the first since he had been operated on. The opium was reduced to half a grain every fourth hour, though for the two preceding days he had not been taking opium as regularly as at first;

as he seemed much inclined to sleep. The half grain of opium mentioned above was ordered more with the object of allaying peristaltic action than to produce sleep.

15th and 16th.—The patient continues doing well.

17th.—Patient was ordered a quinine mixture; has had another motion.

19th.—Patient continues doing well. Wound touched lightly with nitrate of silver.

CASE XXI.—J. D., a labourer, aged fifty-five years, of delicate frame; temperate habits; has suffered from severe attacks of bronchitis for the last two years, especially in the winter months; was visited by me at his own home frequently during the winter. On one day I remarked a tumour in his right groin, which, on examination, proved to be a *femoral hernia*, reducible; it came down immediately on coughing; he was not aware of the nature of the tumour until I explained it to him. I advised him to wear a truss; he neglected to do so, and did not resume his work, feeling weak and unable for exertion. On Saturday morning, June 25th, I was requested to visit him. On reaching his house, I found him in bed; his countenance was pale and anxious, his pulse rapid and small; he stated that he took ill on the day previously, at 5 o'clock, a.m., with colicky pains through abdomen; he took no food on Friday, but drank a good deal of whey and a small quantity of whisky. His bowels were freed on Thursday, the 23rd; he vomited for the first time on Friday, at 9 o'clock; the fluid came up without any effort, and was of a greenish colour. He rubbed his abdomen with his hand to relieve the pain, and whilst *doing so he felt the tumour in the groin*; it was tender to the touch; fomentation was applied, and he tried to return the hernia as usual, but could not succeed. On careful examination I found the tumour (of the size of a large walnut) to be a femoral hernia, which had ascended over Poupart's ligament, simulating direct inguinal hernia; it was tense, painful, and very tender to the touch. I advised his immediate removal to the City of Dublin Hospital, which he at once consented to. On admission, I had him placed in a hot bath, and gave him a full dose of opium. I also ordered an emollient enema (to be administered by means of O'Beirne's tube), which was promptly given; the injection returned at once without bringing away any faecal matter, and was repeated with same result.

Ice was applied cautiously to the tumour, and the opium continued. I felt persuaded, from the feel of the tumour, that the taxis would not be of any use, but quite the contrary; and, though I did

manipulate the hernia sufficiently to satisfy myself that it could not be returned without operation, yet I carefully avoided what may fairly in such cases be termed the *nimia diligentia*. On consultation with my colleagues, it was decided that the operation should at once be performed, and the patient was accordingly removed to the operating theatre. Chloroform was not administered.

The usual incision was made, and a large lymphatic gland came into view, which I drew forwards cautiously (fearing the intestinal sac might be adherent to its posterior surface), and removed. The sac soon came into view. I raised it on the point of a tenaculum and opened it; it contained no fluid or omentum, but merely a knuckle of intestine. I then passed in the point of my little finger (the thigh having been slightly flexed and rotated inwards), and felt for the constriction.

I could not feel Gimbernat's ligament, on account of the extreme tension of the parts, but I could feel the lower end of Poupart's ligament near its attachment to the spine of the pubis. I now passed in the tip of the forefinger of the left hand, and got it well under Poupart's ligament, and thus guided a convex-edged hernia knife. I cut upwards to a slight extent, *recollecting the close proximity of the spermatic cord*, and felt the fibres of the tense ligament give way. I was thus enabled to feel the edge of Gimbernat's ligament, and cutting inwards (the tip of my forefinger now protecting the neck of the sac), divided freely that structure which felt large and broad. The intestine, which was congested, but sound, I returned with facility, and followed it into the abdomen safely through the ring. A warm sponge was now applied over the incision, and the parts were dried. No vessel required ligature. The edges of the wound were now brought together by very fine interrupted iron wire sutures; a compress and spica bandage were applied. The patient made a good recovery.

CASE XXII.—Case of Strangulated Femoral Hernia; Sac deeply congested; Herniotomy; Sac opened; Recovery.—C. S., aged thirty-five years, widow; had several children; by occupation a washer-woman; was admitted into the City of Dublin Hospital on 25th May, 1892, under my care, suffering from strangulated hernia.

Previous History.—About four years previously, after a tedious labour, the patient felt a tumour in the left groin, which went up at times. She never sought surgical advice for this affection, and consequently did not obtain a truss. Each time the tumour descended she suffered from colicky pains and vomiting; these symptoms always disappeared on the reduction of the hernia. On

Monday, the 21st of May, 1892, the hernia came down after severe exertion; the bowels were constipated (three days); patient was seized with colicky pain and vomiting of bilious matter. These severe symptoms continued unrelieved until the 25th (four days), and the sufferer did not understand the real cause of her dangerous condition. No taxis.

Appearance of Patient and Condition of Hernia on admission into Hospital.—The countenance presented the hernial aspect, the slightest exertion caused bilious vomiting. On examination, an oval-shaped tumour was observed in left groin (the long axis parallel with Poupart's ligament, $2\frac{1}{2}$ inches in length), tense, with a gland-like feel; the narrow portion of the tumour could be felt dipping into the femoral ring; abdomen soft and not tender; colicky pains came on at intervals, *like labour pains*, causing the patient to cry out.

Treatment.—First, hot bath; second, dose of opium, enema purgatives administered by means of O'Beirne's long tube; third, ice to tumour. Lower bowel emptied by enema; no change in tumour. I now tried the taxis, but failed to make any impression on the size of the tumour. After consultation, I decided to administer chloroform (having the instruments ready for operation), and if taxis then failed, to operate. Accordingly patient was brought fully under the influence of the anæsthetic, and one of my colleagues having given the taxis one more trial, and being satisfied that further attempts were useless, I proceeded to operate.

The single incision was adopted, and the various layers of fascia divided (Hey's ligature and lower end of Poupart's divided); the peritoneum forming the sac was deeply congested and much thickened; on opening it about two ounces of fluid escaped, containing flakes of lymph resembling curds and whey; a small knuckle of healthy gut now appeared in the neck of the funnel-shaped sac, and was readily reduced; hot sponge applied, and interior of sac thoroughly freed from all fluid; upper portion of incision was next united by means of iron-wire sutures; lower portion left open to allow fluid to escape; hot sponge applied over wound, compress of lint and spica bandage.

A grain of opium pill to be given every hour; lime water and milk, ice and chicken broth as diet. Abdomen to be covered with hot linseed poultice. 7 p.m., patient vomited green fluid. 8 p.m., catheter passed and urine drawn off, as patient cannot empty the bladder since the operation. 12 p.m., patient has slept; abdomen soft and less painful; opium to be continued, also poultice to abdomen.

May 26, visit 10 30 a.m.—Patient slept up to 3 o'clock this morning; vomited green fluid twice since last night's visit; flatus

passed, which gave relief. 3 p.m., abdomen tender; half grain of calomel to be added to each dose of opium; hot fomentation to abdomen, also linseed poultice with laudanum; catheter passed regularly; wound looking healthy; warm water dressing applied. 6 30 p.m. visit, patient complains of soreness in wound. 10 30 p.m., flatus passed; pulse 88; continue fomentation and poultice, also ice and chicken broth.

Monday 27th, 9 30.—Patient slept well; flatus passed freely; warm water dressing continued to wound; fomentation of turpentine to abdomen; patient able to pass water without catheter. 3 30, small hard motion from bowels.

Tuesday.—No alteration in symptoms or treatment.

30th May, Thursday.—Several motions from bowels; patient feels great relief; abdomen soft; slight redness around the wound; sutures removed; linseed poultice smeared with carbolic oil (1 to 5) applied to wound; omit opium and calomel powders; beef tea to be added to chicken tea.

Friday.—Patient passed a restless night; started out of her sleep; perspired profusely; had gripping pains in abdomen; bowels were moved five times. 11 30 a.m.—Patient vomited and looks badly; complains of a cold sensation in left side of abdomen. Ordered—linseed poultice to abdomen; brandy, lime water and milk; opium powders to be repeated; wound dressed as before. Sulphur fomentations.

From this date patient made an uninterrupted recovery; was allowed up June 12th, and was shortly afterwards discharged from hospital cured.

CASE XXIII.—*Obturator Hernia.*—M. C., aged seventy years, was admitted into the hospital, under my care, on the 22nd of December, 1881, suffering from symptoms of intestinal obstruction.

History.—Complained for the first time on 17th instant; symptoms of colic. Opium draught was prescribed by a practitioner, and, on 19th, she vomited repeatedly contents of stomach. Enemata of turpentine and oil administered, and opium pills continued.

21st inst.—Countenance changed; vomiting stercoraceous.

22nd.—Admitted to hospital; collapsed. Hypodermics of ether, hot applications. Hernial outlets all examined; no tumour could be felt.

Diagnosis.—Internal strangulation. Patient did not rally; died on the 23rd instant, at 5 a.m., Monday after admission.

Post-mortem.—Extensive peritonitis. On searching for cause of obstruction I found an obturator hernia about the size of a small

marble, involving portion of the ileum, protruding through the right obturator foramen, which I presented to the museum of the College, and now exhibit. The small intestine above the obstruction was much distended with gas and fluid. Having observed a well-marked Colles' fracture of left radius of old standing, I removed that specimen also, and it occupies a position in our museum.

So far as I know, Arnaud first described the obturator hernia. Duverney found two, one in each foramen, in the dissecting room. Garengeot says it is more frequent in females. Obrè, Sir A. Cooper, Cloquet, Vinson, and Bransby Cooper give cases. In addition to vomiting and pains in the groin, there is fulness (if tumour is large) in Scarpa's space, and it is necessary in the operation to divide transversely the pectineus muscle, to liberate the hernia.

Dr. John Barton, Demonstrator of Anatomy and Examiner in the College, described a double obturator hernia met with in a male subject in the dissecting room—an account of the hernia is published in the Transactions of the Academy, March 15th, 1889. There are only two specimens of obturator hernia in the Museum of the College—one presented by Mr. Kirby, the other by myself.

I have operated on several occasions on cases of strangled *congenital hernia*, ages varying from one to seven years, and, at the Meath-street Dispensary I met with a very large number of such cases, the great majority of them I succeeded in reducing under chloroform. One of these cases is specially deserving of being placed on record. On June 8th, 1879, a boy aged seven years, residing at Windy Arbour, Dundrum, and who suffered from right congenital oschoocele, developed symptoms of strangulation. My friend Dr. Usher, Medical Officer of Dundrum Dispensary, former Purser-student in the Hospital, was not sent for until the symptoms had existed for *several days*. On seeing the patient, he advised his friends to bring him into hospital under my care. On admission he presented all the symptoms of strangulation and collapse. I proceeded to operate at once, assisted by my colleagues. The late Mr. Wharton was also present. I found coils of gut in a *gangrenous condition*; the stricture was divided and an artificial anus was formed. Notwithstanding the

forlorn-hope aspect of the case, the boy recovered, and was so well that he was taken home on the 14th of August. He was then passing fæces through the natural passage. A faecal fistula still remaining at site of operation.

I called occasionally, when in the neighbourhood, to see him. Several months subsequent to his return he became suddenly collapsed and died. I got an opportunity of making an examination of the parts, but could not find any cause to account for his sudden death. I removed the portion of intestine showing the faecal fistula, and presented it to the museum of the College. The late Dr. Barker, curator, wrote, saying the specimen was most interesting and the only one of its kind in the museum.

Congenital Scrotal Hernia.—As the tunica vaginalis is thicker than the peritoneum, the contents of a congenital hernia are not so easily felt as in common rupture. In children the hernia generally contains *intestine only*, the *omentum not being in early life sufficiently long to protrude*.

In the operation for relief of strangulated congenital hernia, as the surgeon has to open the tunica vaginalis, Sir A. Cooper judiciously recommends that the membrane should not be opened low down—(1) because a sufficiency of it should always be left to cover the testis, and (2) because the *spermatic artery and vein* are situated *obliquely on the front and lower portion of the tunica*.

Pott and Willmer were of opinion that congenital inguinal hernia is liable to be strangulated by the neck of the sac, more frequently than common inguinal hernia.

CASE XXIV.—Strangulated Encysted Hernia.—L. P. N., aged ten months, residing at 16 Ormond-quay, brought to Meath-street Dispensary, February 2nd, 1872.

History.—Mother states that for the first time at last Christmas (when eight months old) she observed a swelling at the internal abdominal ring, which got full when the child cried. She rubbed the swelling before the fire and it went up; the tumour recurred from time to time, but never came down into the scrotum. At 7 o'clock, on the 1st of February (1872), the lump came down in consequence of a crying fit, and remained down; the mother could not return the tumour. A hernia occupies the right inguinal canal; very tense at internal ring; testis free at bottom of scrotum;

can be isolated readily from hernia; child screams when hernia is touched.

Child chloroformed, taxis adopted, and hernia returned, suitable band applied.

Janvier, in 1809, recorded the case of a boy who, when at the age of seven years, forced the left testis into the abdomen; ten years afterwards, or when seventeen years old, the inguinal ring having become unusually contracted, the testis passed under the femoral arch with all the symptoms of strangulated hernia, on account of which he was obliged to undergo the operation.

CASE XXV.—The following is a case in which an enlarged lymphatic gland occupied the right femoral ring and caused a fatal error in diagnosis. I was requested by a late eminent physician to see a case and take charge of it during his absence from town. The young woman had all the symptoms of peritoneal inflammation, and was treated for that disease for several days. On seeing the expression I at once suspected hernia, and when looking at the abdomen I examined the femoral rings. At the right side I found a large and movable lymphatic gland which had escaped the physician's notice. On our retiring to talk the case over, I expressed a very decided opinion that there was a knuckle of gut behind the gland, and that the peritoneal inflammation was caused by strangulation. I advised cutting down, which was done as quickly as the instruments could be got. I removed the gland very cautiously and found a deep gangrenous gut adherent to the gland and also the ring. The stricture was divided, but, of course, the gut was not returned; an artificial anus resulted, but the patient died.

CASE XXVI.—*Case of Hernia (male adult); Gut ruptured by Truss.*—A man had a struggle with a patient under his care some miles from the city, about 15 years ago. The attendant suffered from left scrotal hernia; the gut was down below the truss; the pad of the truss went back with considerable force causing intense pain and collapse. The patient was seen shortly after the occurrence by my brother, Dr. Richard Croly, who recognised the very serious nature of the case, and accompanied the man to Dublin, and placed him under my care in the hospital. No tumour was visible; opium in large doses was administered. The patient died, and, on making a *post-mortem* examination, a laceration was dis-

covered in the portion of the ileum which was struck by the slapping back of the truss. The peritoneal cavity contained the contents of the bowel. The specimen was shown at a meeting of the Surgical Society.

It is of interest to note that the tunica vaginalis in children remains longer open on the right than on the left side.

Ventral hernia, described by Celsus, may appear at any part of the abdomen. The intestine, &c., is always contained in a sac of peritoneum. Sir A. Cooper imputes the disease to dilatation of the natural foramina for the transmission of vessels, congenital deficiencies, lacerations, wounds of the abdominal muscles or their tendons. Herniæ, in the course of the linea alba, sometimes occur so near the umbilicus that they are liable to be mistaken for true umbilical ruptures. Umbilical hernia has a roundish neck or pedicle, at the circumference of which the aponeurotic edge of the umbilical ring can be felt, and there is no wrinkling of the skin. Hernia of linea alba has a neck of oval form and the tumour is oval, and the edges of the opening in the linea alba can be felt; if the tumour is near the umbilicus the cicatrix of the navel can be seen on one side of it.

CASE XXVII.—Last summer a young gentleman consulted me about a swelling at one side of the linea alba. I found a large protrusion of intestine when he coughed, easily reducible when he lay down. The history he gave was that on walking over a crossing a car came round the corner suddenly, the point of the shaft struck him in the abdomen. Two fingers could be introduced easily into the rent in the abdominal muscles.

CASE XXVIII.—*Umbilical Strangulated Hernia.*—A woman, aged seventy years, was admitted under my care into the hospital, January 26th, 1876, on the recommendation of Professor Purser, then my colleague. There was a large tumour presenting through the umbilical opening, containing gut and omentum; portion of the tumour was irreducible for about five years; the symptoms of strangulation were marked. Being out-voted at a consultation the operation was postponed; patient died unrelieved.

Post-mortem.—Sac absorbed by pressure; coils of small intestine

(gangrenous) in sac, also gangrenous omentum; colon found in lower part of sac; lymphy exudation and milk-coloured fluid in abdomen; the smallest incision above relieved the stricture, and the gut was easily reduced.

CASE XXIX.—E. M'G., aged thirty-six years, residing at 68 Coombe, married, silkweaver; temperate habits; bowels easily upset. On Sunday, the 10th November, 1869, was seized with pain in the navel—cannot account for pain in any way—of a gnawing nature; went to work on Wednesday following; pain got worse; consulted a practitioner, who ordered pills and a draught for bowels; got no relief; remained under his care until last Tuesday, 19th; had a blister; no relief.

Thursday morning, 21st—I visited patient; found him suffering intense pain in umbilicus; pressure increased the pain, particularly at right side of navel; pulse quick; countenance expressive of intense agony; bowels regular; no hiccough, but any attempted cough increased the pain very much; patient resembled the pain to a filling up of navel. I prescribed leeches over painful part, hot fomentation of chamomile and poppyheads, hydrate of chloral draughts to relieve pain.

Thursday night.—Was very bad.

Friday night.—Pain almost unbearable. I examined for hernia and abscess; some foetor from navel on Friday, and slight redness on right side of navel. Ordered opium in half-grain doses every hour for first three hours, and then one every third hour.

On Saturday morning, about 11 30 o'clock, a sudden bursting took place from umbilicus, and a foreign body, size of bean escaped; a smart bleeding, dark coloured; patient got instant relief.

On Saturday night patient felt flatus escape through umbilicus.

The diagnosis of inguinal hernia is usually unattended with difficulty; not so with the femoral. Direct inguinal, in the male, and femoral, when the tumour has ascended over the ligament of Fallopius, may be confounded with each other. To make a differential diagnosis before employing the taxis or operating is of vital importance. In my first operation for femoral hernia in a man, many years ago, the question arose at the operation table. An enlarged lymphatic gland has often deceived the practitioner, but, if symptoms of strangulation exist, the surgeon should cut down and will surely find a portion of intestine strangu-

lated and most likely adherent to the back of the gland, which should be removed with great gentleness and care. I have seen a cyst in the region of the femoral ring co-exist with strangulated femoral hernia, and I have alluded to the case. Femoral hernia, when long strangulated and inflamed or gangrenous, may simulate bubo, but in all such cases it is clearly the duty of the surgeon to cut down and explore. Abraham Colles once cut down on a tumour in the inguinal canal, which was painful and caused vomiting. The case was one of acute orchitis occurring in an undescended testis. He advises the surgeon before operating to examine the scrotum. Of course, a hernia and an inflamed undescended testis may co-exist.

I never pinch up the skin or transfix in femoral hernia, as the coverings of the intestine are so thin, especially when the hernia has mounted on the abdomen; it may be done safely by a very experienced hand, but the example to students is not good.

In the operation for femoral hernia in the male, if the division of Poupart's ligament is considered necessary, the spermatic cord should be raised with a blunt hook or bent probe so as to avoid injury of the spermatic vessels. An irregular obturator may be felt through the ring.

Arnaud, in the examination of the body of a man aged twenty-two years, who died a few minutes after the operation for incarcerated femoral hernia, found the artery of the spermatic cord had been divided.

In my own operations for femoral hernia I make a single long incision over the tumour, and if the hernia has ascended over Poupart's ligament, I commence well above the tumour and extend the incision nearly to the lower part of the saphenous space. In the complete femoral hernia I have almost invariably found the seat of stricture at Colles' fibres or Hey's ligament. In some instances, I have made a few notches in the lower border of Poupart. If more room is needed the simple incision can be made—like the inverted Δ of Sir A. Cooper, the inverted \perp of Fergusson, or the sloping incision of Lister; and only on one occasion have I cut Gimbernat. If the stricture is in the neck of a narrow sac, having opened it and passed my

finger round, I draw out the sac with catch forceps, so as to widen the mouth and neck of the sac.

In operating for femoral hernia I dip the point of my index or little finger into the ring almost at a right angle with the thigh.

Abraham Colles recommends, in operating for femoral hernia, that the patient's shoulders should be raised, and the legs allowed to hang over the end of the table. He does not believe Gimbernat's ligament ever causes the stricture; his fascia lies midway between the femoral vein and the spine of the os pubis.

Abraham Colles, in operating for relief of femoral hernia, had the patient's shoulders raised and the legs hanging over the end of the table. He made the inverted incision of Sir A. Cooper, for the purpose of exposing the line of adhesion between the iliac and peritoneal portions of the fascia (Colles' fibres), and after the division of the stricture he proceeded to relax Poupart's ligament. Cutting forwards, divides Colles' fibres; inwards and slightly upwards, frees Hey's. Dip the finger at right angles with thigh in the operation for femoral hernia. Gimbernat's operation of dividing superficial and deep fibres, by one and the same motion of the knife, and introducing the knife into the abdomen, would certainly sever an irregular obturator. Drawing down the bowel for the purpose of seeing that it is sound above the seat of stricture is very important before returning the bowel into the abdomen. This is especially needful in cases where the strangulation has existed any time. When omentum is found in the sac of a femoral hernia it is often somewhat the shape and size of an "auricular appendix," and on raising the portion of omentum like the lid on a box, the knuckle of gut is seen often about the size of a damson plum, and, like the fruit, varies much in colour. The operation for relief of femoral hernia requires more care and skill than the inguinal forms, and when the intestine has ascended on the abdomen the coverings are very thin—merely integument, superficial fascia, fascia propria and sac.

Symptoms.—The most prominent symptoms of strangulation are: tumour in hernial outlet, as a rule not painful

to touch; constipation; vomiting, often sour, and at first merely contents of stomach, then bilious, and lastly stercoreaceous. "Hernial face" often more marked (so far as my observation goes) in femoral than in the other forms; sudden "ageing" of the patient and signs of shock, which, in advanced cases, is not unlike the collapse of Asiatic cholera. Pain in meso-gastrium, often referred to umbilicus, of a colicky nature; no flatus passed per anum; quick pulse and general restlessness; great thirst and longing for drinks; hiccough, which becomes very distressing, and abdominal tension; sometimes distension and frequently retention of urine. In advanced stage the tumour, especially when femoral, gets discoloured, and resembles bubo; may be resonant on percussion, or may crepitate when gangrene sets in. There are some cases so urgent that it is not advisable to lose any time in the trial of means to produce reduction; the delay of a few hours may cut off all hope of success, when a speedy operation might have saved the life of the patient. Sir A. Cooper considers that pain on pressing the belly and tension point to the necessity of immediate operation.

Guthrie says: "If a patient labour under a strangulated hernia, and the general symptoms are severe, the operation should not be delayed, although the tumour itself may be little painful." "These symptoms are: pain at the umbilicus, irritability of the stomach, anxiety of countenance and failing state of pulse." Mr. Guthrie is in favour of immediate operation. Persistent vomiting alone would justify herniotomy, but that symptom I have known to be absent, and yet acute strangulation existed. Hiccough is not always a sign of gangrene, and it may last several days after operation.

Hernial sacs vary; we meet thin sacs, thick sacs, sacs with narrow necks, hour-glass and the "congenital" and encysted forms. The difficulty in herniotomy is the recognising of the sac. Fluid may be present. When the sac is translucent and the fluid clear, it greatly facilitates the operator. Omentum is often seen in the sac, but fat on fascia propria is occasionally mistaken for omentum, and was observed in my last femoral hernia operation. The

question of opening or not opening the sac cannot be decided, as a rule, at the time of commencing the operation, and my own experience has taught me to open the sac in almost every case. Now that the radical cure is part of herniotomy, the question is practically set at rest.

The sac of a femoral hernia is exceedingly narrow at its neck; where its body begins it expands in a globular form. The sac of an oblique inguinal hernia is generally oblong or pyramidal. The body of the sac of a femoral hernia makes a right angle with the neck by being thrown forwards and upwards—a fact which it is most important to remember when trying to reduce by *taxis*. The tumour formed by the body of the sac is oval and nearly transverse; the outer and rather smaller end of the swelling is somewhat higher than the inner.

According to Sir Astley Cooper, the peritoneum, in forming a hernial sac, "is not dragged from its natural situation, but becomes elongated by gradual distension; and it is usually not only lengthened but slightly thickened, for a long-continued pressure of moderate force will produce an elongation and thickening of fibre, though a greater degree will bring about an entire absorption of parts."

The seemingly great thickness of the hernial sac and its apparent divisibility into several layers in old herniæ, are owing to the state of the *coverings* of the sac—the sac itself being generally but little thicker than the peritoneum.

Characters of fluid in sac.—It varies in character, according to duration of strangulation. When the sac is opened fluid escapes; its consistence, colour, and odour vary in different cases, viz:—

1. Pale-yellow, clear and bright when strangulation is quite recent—intestine deep red;
2. Dark-brown when strangulation has existed many hours—intestine of a purple tint;
3. Coffee-coloured and turbid after violent and prolonged *taxis*—intestine dark purple, inclining to black;
4. Brownish-yellow and containing blood, coagula, flakes of lymph, fæculent odour—intestine, omentum, or vermi-form appendix, approaching or passed into gangrene;

5. Gas through fluid and bubbles—hernia ruptured.

The small intestine is more frequently protruded than the large, and the ileum more frequently than the jejunum in consequence of its greater proximity to the rings.

The viscera, which are more frequently met with than any others in a hernia, are the omentum and the ileum, the next in frequency is the colon, then the cæcum, and lastly the jejunum. Sometimes the appendix cœci is the only part found in the hernial sac, and may *produce symptoms of strangulation*. Three cases containing the vermiform appendix occurred in my practice.

Herniæ are more frequent on the right side of the body. Can this be explained by the greater exertion on the right side of the body? The smaller a hernia the greater the danger and the less likely the taxis is to succeed. Hernia consisting of gut only is more dangerous than gut and omentum. Herniæ which become strangulated immediately on their formation are very dangerous. *Cæcum* in sac is very difficult to reduce.

In effecting reduction by taxis, gut will be known by its going up *slowly at first and then suddenly* and with a *noise*. Omentum returns *slowly* to the *last portion* which must be *pushed up with the fingers*. Taxis succeeds better as a rule in inguinal than in femoral hernia. When a rupture becomes painful, taxis should not be continued. As a rule strangulated herniæ are not painful.

Strangulated herniæ (says Scarpa) very frequently mortify from the negligence of the patients and their repugnance to submit to an operation; and perhaps, still more frequently, from the effects of the taxis unskilfully exercised by uninformed surgeons, who are determined at any price whatsoever to accomplish the reduction.

Peritonitis, enteritis, shock, and exhaustion are amongst the most frequent causes of death in hernia, and Leichtenstern adds septic pneumonia. Antiseptics are most valuable in hernia operations. Some advocates of Petit's operation assigned as causes of inflammation following herniotomy exposure of the bowel to air, change of temperature and handling. Lawrence ascribed the mischief not to these agents, but chiefly to the long-continued pressure of the

stricture, owing to the operation being too long delayed, and to an injudicious and too frequent use of the *taxis* previous to the operation.

The operation is justifiable and necessary, when the patient has been brought fully under the influence of an anæsthetic and the *taxis* has been fairly, fully, and skilfully tried. By no other means is there hope of saving life.

Position of Patient for Employment of Taxis.—Position of body: inclined plane, with thighs bent towards trunk. The inverted position is dangerous, especially in femoral hernia. Effect: it relaxes the fascia and the aperture through which the hernia passes; flexion also relaxes the abdominal, internal iliac, and psoas muscles. In oblique inguinal hernia the pressure should be directed upwards and outwards along the corner of the spermatic cord—time about a quarter of an hour. In flexing the thigh in femoral hernia the surgeon should be most careful not to flex too much for fear of pinning the gut between the thigh and pelvis, which might rupture the intestine.

Laying the patient on the sound side and flexing.—In trying *taxis* in femoral hernia the surgeon should stand with his back to the patient and first try to draw down the intestine from above Poupart's ligament. The treatment I now adopt when called to a case of external strangulation is, warm bath—unless contra-indicated—full enema, administered by means of a long tube; in suitable cases, ice to the tumour; then anæsthetic, and if very gentle persuasion fails, herniotomy there and then. Every moment is of vital importance, and upon the skill, judgment, and firmness of the surgeon the lives of his patients hang. For many years I have given up opium, tobacco injections, and venesection, as my experience has taught me that such treatment was most unsuited, if not dangerous, in the majority of cases.

Verheyn, in 1710, pointed out the nature of femoral hernia, previously confounded with inguinal. The opening through which it passes, called "crural opening" (Gimbernat); "femoral ring" (Hey); "crural canal" (Cloquet). I think the terms upper and lower superficial and deep rings, objectionable terms. Morgagni never met

with the crural hernia in the male; Cooper's experience, almost the same; Arnaud's, ditto; Scarpa examined a femoral hernia in a male subject; Hesselbach thought it was often overlooked on account of its small size.

Sir C. Bell records a case of inguinal hernia occurring in a gentleman. On his death a small femoral hernia was found concealed by an inguinal rupture and mass of fat.

Abraham Colles says:—"Femoral hernia is liable to strangulation before it can be felt *externally*. Some fatal effects have resulted from mistaking strangulated crural hernia for inflammation of some of those *lymphatic glands* which lie in the vicinity of the crural ring. The deep situation of the hernia, together with its very small size, have contributed to render the mistake more frequent. In some instances the difficulty of discriminating is considerably increased by an enlarged lymphatic gland lying anterior to a very small hernia."

Taxis in femoral.—Endeavour to bring down the tumour into the hollow of thigh, and then sink it into the femoral ring; pressure upwards and slightly outwards; as femoral hernia ascends on abdomen, coverings very thin.

Lawrence says:—"Femoral hernia is not so uncommon in men as authors would lead us to suppose, and I saw an hospital surgeon mistake a crural hernia for a glandular tumour, and the patient died."

When a femoral hernia is incomplete, it presents itself as a round firm swelling. The œdema of the thigh and foot, and numbness of the limb, referred to by Hesselbach, I have never seen. That the mortality arising in strangulated femoral hernia is very large, all agree, and the death-rate is largest where strangulation occurs on first descent. The bowel in these cases should be liberated at once if *taxis*, tried under chloroform, fails. Gimbernat's ligament is wider in proportion in the males, and hence the stricture is very tight.

Small, recently-developed herniæ are more frequently strangulated than large ones, and those which have existed some time.

Sir A. Cooper writes:—"A small hernia is more easily strangulated than a large one, the pressure on the contents

being more violent; and the symptoms are much more urgent, as the stricture acts with much more effect upon a single knuckle in stopping its circulation than when the contents are large and voluminous."

Seat of Stricture.—In most of my cases of strangulated inguinal hernia in the adult male the seat of stricture existed in the sac, especially in those cases where a truss had been worn for a long time, and many of the sacs, in such cases, were hour-glass in shape. In my cases of congenital inguinal hernia I found the stricture situated at the internal abdominal ring. In my femoral hernia cases I have found "Colles' fibres" and "Hey's ligament" most frequently the cause of strangulation. In a few cases I divided some fibres of Poupart's ligament in the male, merely making "notches" in the inferior border of the ligament so as to avoid injuring the vessels in the spermatic cord. I only once divided the ligament of Gimbernat.

If a femoral hernia lies very deep in the ring and is very small, it may be constricted in the neck of a narrow sac, and a large and *irregular obturator artery* may assist in causing the constriction in a small ring. Dupuytren, Liston, Skey, and others have detailed cases of wounded irregular obturator arteries.

Sir A. Cooper declares that the stricture in femoral hernia is never situated at Gimbernat's ligament, but at the crural arch just where the viscera leave the abdomen. The aperture is very small through which the viscera protrude in femoral hernia. How much greater the constriction is, therefore, than in inguinal! Consequently, how much more rapid the symptoms are, and how much less frequently the *taxis* succeeds, and how much more dangerous delay proves!

Hesselbach and Langenbeck do not believe Gimbernat's ligament is the cause of strangulation. Strangulation may occur deeply or superficially. Gimbernat's ligament is broader in the back, and this, to some extent, explains why femoral hernia is rarer in the male than the female.

Femoral hernia in the male is often overlooked on account of its small size and depth; it may be *concealed by an inguinal hernia* and mass of fat. Femoral hernia, frequent in women who have had children, is very seldom met in young girls.

The late Professor Spence, Surgeon to the Edinburgh Royal Infirmary, records a case of femoral hernia in a man. The *caput cæcum* was contained in the sac. After division of the upper edge of the falciform fascia a considerable difficulty was encountered, and the intestine could not be returned. The Professor introduced his finger to ascertain the cause; he felt a cord-like substance encircling the hernia, and he concluded this was an irregular obturator artery. He hooked down the artery and brought it into view and ligatured it in two places, dividing it between the sac. The constriction in this case, therefore, was caused by the large irregular obturator which encircled the gut. This case was unfortunately verified by *post-mortem*, as the man died suddenly; acute peritonitis was the cause of death. The irregular obturator may pass downwards and may divide the femoral ring into two sections (Allan Burns), a portion of the gut passing on either side.

The co-existence of a "femoral" or "obturator" with inguinal hernia is most important to remember, and I have seen and recorded such instances. The surgeon should not be thrown off his guard by a large hernia, which, although irreducible—at all events, so far as the sac and omentum are concerned—may not be causing the symptoms. Search all the hernial outlets before operating.

Hernial Knives.—I have long been of opinion that the hernial knives of Sir A. Cooper, Dupuytren, and others are too large and the blunt portion unnecessarily long—a shorter knife, which, of course, has sufficient strength, answers every purpose; and I have found Dupuytren's *convex*-bladed knife divide the stricture in femoral hernia far more easily than the *concave*-bladed knife of Sir A. Cooper. In femoral-hernia operation I never introduce the knife into the *abdomen* or into the femoral ring, and I have always used the nail of my little finger as a guide to the knife. I am afraid of and never employ the director for such purpose.

If the incision is confined to Colles' fibres, Hey's ligament, and notching Poupart, an irregular obturator could *not be divided*, and in all my hernia cases, I am thankful to say, I never cut the irregular vessel, which at times is very large. The following of the intestine with the finger (properly anti-

septicised) safely into the abdomen is very important, and I have observed that a difficulty of getting the gut to "retire," when the stricture has been divided and sac opened, is a bad omen, some internal band or gripping by omentum beyond reach being the cause of trouble within the abdomen.

Scarpa says: "Surgeons were not ignorant, even before the time of Arnaud, that the incision of the Fallopian ligament, to free from strangulation the femoral hernia in the male, was a very dangerous operation, from exposing the patient to an irreparable and fatal effusion of blood into the cavity of the abdomen, and cannot be ascribed to any other circumstance but the injury of the spermatic artery."

I have found entero-epiploceles of every form, as a rule, do better after operation than cases where gut only was strangulated, and I have never seen any bad effects follow the ligaturing of the omentum if large, and cutting away the portion in the sac. I have met with the vermiform appendix on three occasions in hernial sacs, twice in oschocele, and once in metrocele; on the last occasion the vermiform appendix bore the pressure of the stricture and saved the gut, so that, on one occasion at least, it has been useful.

The great change and improvement in herniotomy in the present day is the performance at the same time of the "radical cure," and that procedure is an additional reason for early herniotomy and abolishing taxis, for if the gut is reduced by taxis with all its risks, the patient is very liable to strangulation of a fatal nature at no distant period. The structures divided in herniotomy are chiefly fascial and tendinous, and in old herniae the peritoneum has ceased to be a delicate membrane, having deserted its normal position and become thickened by the pressure of trusses, &c.

Pott says: "Whoever in these urgent cases wastes time in trying the effects of enemata, cold poultices, fomentations, merits censure for his credulity, ignorance, and unfitness to undertake the treatment of a rapid disease, in which, if we do not go forward, we generally go backward, and whatever does no good, if it be at all depended upon, certainly does harm by occasioning an irretrievable loss of time."

After herniotomy I allow the stomach to rest, giving a little ice to relieve thirst. I feed the patient "per rectum."

My cases this session did splendidly by this treatment. If the bowels act at once after herniotomy, the case generally recovers; the same applies to the early passage of flatus, which I have always looked upon as a most favourable sign. The difficulty I have always experienced in herniotomy is the recognising of the sac. This I call the "halting point in the operation." The performance of the "radical cure" at the same time as the herniotomy, is a *great advance in the surgery of hernia*, and I have found *ligaturing the sac*, or stitching the end, a safe and perfect procedure. I avoid twisting in such cases as a dangerous operation.

"Strangulated herniae very frequently *mortify* from the negligence of patients and their repugnance to submit to an operation, and *perhaps, still more frequently from the effect of the taxis unskilfully exercised by uninformed surgeons, who are determined at any price whatsoever to accomplish the speedy reduction of the viscera.*" This was the experience of Scarpa.

Reviewing the large number of cases of strangulated herniae, which I had an opportunity of observing when a student and house-surgeon, and from the experience I have since gained by my own cases, I believe that *herniotomy would become one of the most successful of the great operations of surgery, if the taxis was skilfully practised, a careful selection made of cases suitable for its employment, the time strictly limited, and only one set of hands* (assuming they are the right sort) allowed to manipulate. No one can be so interested in the employment of taxis as the surgeon who is to be the *operator* if taxis fails, and who *will have all the anxiety and responsibility of the case.*

Some years ago it was too much the habit of holding consultations in strangulated hernia—trying all sorts of remedies, and having the taxis practised by resident officers and each member of the staff, and thus losing much valuable time. In illustration, I may mention a case of Mr., now Sir W. Stokes. He kindly asked me to accompany him to the Richmond Hospital, about 20 years ago, to see a strangulated scrotal hernia. The case was one demanding operative interference. A senior colleague advised waiting and giving the *red bottle*, which he said

Carmichael found to "sit on the stomach when other means failed." The operation, which was postponed until the following morning to give the mixture a trial, was then done, and the deeply congested gut showed how much better it would have been to have operated earlier. The case recovered.

Lassus gave full doses of opium for the purpose of effecting reduction, sometimes apparently with success, and the experienced Hey speaks of its occasional usefulness; it certainly diminishes the sensibility of the hernia and tranquillises the alimentary canal. As regards its supposed effect in relaxing a tight stricture, seldom formed by muscle, it, in my opinion, cannot be satisfactorily explained. I have almost completely given up the use of opium in hernia cases.

During herniotomy I have frequently perceived a foetid odour from the sac, which is caused by transudation, and I have expected and found either gut, omentum, or vermiciform appendix in a gangrenous condition when I opened the sac. To the uninitiated or inexperienced this gangrenous odour may give rise to the idea that the gut, not the sac, had been exposed or opened. The educated nose will detect the gangrenous from the fæculent odour.

That there is always a risk in opening a serous cavity no one can deny, but I am inclined to believe that the risk of opening the sac in herniotomy has been much exaggerated, and that peritonitis and enteritis are really produced by strangulation, prolonged taxis, and waiting for symptoms. As a proof of the correctness of this view, I ask, do we not now open the sac in the operation for the radical cure, and how very rarely, indeed, do we see any inflammatory or dangerous symptoms arise?

ART. V.—*Ecchymosis in Insanity.*^a By W. R. DAWSON, M.D. (Dubl.); Stewart Scholar in Mental Disease; Assistant Superintendent, Farnham House Asylum, Finglas, Dublin; late Assistant Physician, Royal Edinburgh Asylum.

THE pathology of cutaneous and subcutaneous haemorrhage, apart from that of traumatic origin, is still, it must be admitted, far from clear. Our knowledge has, it is true, been recently extended in this direction. Thus it has been shown that almost all such haemorrhages, from whatever cause, are primarily situated in the deepest layer of the cutis or most superficial of the subcutaneous tissue, and are due to actual rupture of vessels.^b Diapadesis, although it may assist, is but seldom the sole factor in the production of such haemorrhages, and when it is so, the effusions are small, of slow growth, and situated in the papillæ or epithelium.

Precisely how the rupture takes place is, however, by no means so easy to explain. The tear is found, according to Unna, in the thin-walled vessels of the cutis just at the point where the coats are about to become greatly strengthened as the vessels enter the loose subcutaneous tissue, and his deduction is that any cause (such as distension of the cutaneous vessels at a time when the cutis cannot expand) which would force the thin-walled segment of the vessel to extend beyond the shelter of the firm connective-tissue layer would be liable to produce rupture. This accounts satisfactorily enough for traumatic ecchymoses. On the other hand, there is evidence, although by no means quite conclusive, to show that the ecchymoses in purpuric disease, and perhaps also those which occur in the course of some zymotic diseases, such as enteric, are due to emboli containing specific bacteria.

But there still remain a considerable number of cases which do not fall into the categories of traumatism or

^a Laid before the Annual Meeting of the Medico-Psychological Association of Great Britain and Ireland, July, 1895. A paper on the same subject was read before the Medical Section of the Royal Academy of Medicine in Ireland, February 22nd, 1895.

^b Unna. *Histopathol. d. Hautkrankheiten.* 1894. P. 48, et seq.

specific disease, and of these some of the most interesting are the cases where the haemorrhage occurs in the course of disease of the nervous system. Now, Unna altogether denies* that haemorrhage can be due to changes in the blood itself, and he also, on *a priori* grounds, rejects the influence of disease of the vessel-walls, though in the face of the fact that ecchymoses are not uncommon in haemic diseases, such as leukæmia, and in diseases associated with vascular change, such as nephritis, this contention can hardly be accepted without qualification. Apart from specific embolism and haemophilia, the only other cause of haemorrhage into the skin is, according to this authority, active and passive congestion, not alone, but in combination with each other or with vasomotor paralysis, and it is in this way—i.e., by the occurrence of venous spasm simultaneously with arterial distension—that, he suggests, ecchymosis of nervous origin, may be explained.

If, however, congestion could alone suffice to produce ecchymosis, one does not see why the latter is so uncommon. That it is uncommon would seem to indicate that a third factor is needed, viz., some impairment of the walls of the vessels—even though this may be no more than a lowered vitality perhaps incapable of detection by the microscope—or less probably some altered condition of the blood itself.

It is when we turn to consider ecchymosis occurring in nervous disease that the necessity for some such degenerative process to explain the phenomena becomes clear. Apart from insanity, there are three chief disorders in which haemorrhage into the skin may occur—viz., epilepsy, hysteria, and locomotor ataxy. In the former the haemorrhages (which seem to be in most instances very small, and are possibly formed merely by diapedesis) must be due to the congestion of the fit, aided perhaps by the tightening of the skin due to muscular contraction, as vascular disease is excluded by the fact that they have occurred in young, healthy persons, with a first attack.[†] Hysteric ecchymosis is not so easy to explain; but so far

* Op. cit.

† Grossmann. *Med. Times and Gaz.* 1876. II., p. 723.

as it is not a mere diapedesis, it may perhaps be ascribed to change in the vessels due to the altered condition of the blood so frequently present, the immediate cause being either the congestion of a hysterical fit or a localised vaso-motor paralysis. The whole subject is, however, mixed up with much imposture.

The haemorrhage which occurs in tabes ("tabetic purpura") is, however, of a quite distinct type. It appears to come on in some cases without obvious cause, and may be very extensive, both facts pointing to vascular degeneration. Thus only in the case of epilepsy—probably the extremest possible form of mechanical congestion—can the haemorrhages be certainly ascribed to this cause alone, and they are then, as we have said, usually small.

But it is in insanity that one would expect the clearest evidence of degeneration and the greatest frequency of ecchymosis, and, consequently, it seems strange that so few cases of the latter have been described. Dr. Savage* has published a case of symmetrical purpuric eruption on the legs of a general paralytic, and also (with Dr. Percy Smith)† one of acute mania, speedily reaching a fatal termination, in which there were many ecchymoses, as well as haematuria and a haemorrhagic subdural membrane. In both cases, especially the former, vascular degeneration seems indicated; but in the latter case there was also, of course, the cutaneous congestion due to excitement and muscular violence.

Non-traumatic symmetrical haemorrhage of the face in an old dement has been described by M. Klippel‡; and I have recently seen a case where purpuric spots and extensive ecchymosis appeared on the legs of an old and feeble demented man, accompanying considerable oedema and some thrombosis of superficial veins.

The late Dr. Hack Tuke, in an article in the Dictionary of Psychological Medicine mentions cases of Dr. Bucknill's and of Mr. Green's, but does not give many particulars,

* Journ. of Ment. Sci. Jan., 1886. P. 507.

† Ibid. P. 501.

‡ Lancet. 1885. II., p. 815. (Abstract of article in Ann. Médico-chirurg. No. 8.)

and seems inclined to attribute them to scorbutic conditions. That scurvy may occur in a lunatic or neurotic patient is, of course, true, but this will certainly not account for all the cases. I have not alluded to haematoma auris as a form of subcutaneous haemorrhage, and it is possible that a certain number of cases may really be so, though recent investigations^a have increased the probability of the view that this lesion is in most instances primarily due to degeneration of auricular cartilage. One fact of importance for our purpose has been brought out in the investigations alluded to, as well as in others, viz., the frequency of disease in the vessels of the insane, whether or not such is capable of causing rupture. Of the ease with which *traumatic* effusions of blood into and beneath the skin can be produced in the insane, there can be no question.

The following case seems to throw light on some of the points which have been indicated, and for this reason, as well as on account of its rarity, has been thought worthy of publication:—

CASE.—A married woman, fifty years of age, stout and florid, and of a rather fair complexion, was admitted to the Royal Edinburgh Asylum in August, 1890, suffering from delusional melancholia. Her mother had suffered from epilepsy, and all the children of one of her sisters died in convulsions. She herself had led a hard-working steady life, but was excitable, and, though of a kindly disposition, was inclined to be solitary and unsocial. She had made several long sea voyages, but there is no record of her having ever suffered from malarial disease. The climacteric was late, and some endometritis, with uterine displacement, gave rise to pain and discomfort in connection with the uterus; but the immediate cause of her illness was an attack of influenza, about five months before admission—in fact she is one of the patients mentioned in Dr. Elkins' paper on that disease.^b She first became emotional and querulous, was sleepless, and took causeless ill-will against persons, which gradually deepened to extreme delusions of suspicion

^a See paper by Drs. Middlemass and Robertson, *Edinb. Med. Jour.*, Dec., 1894, p. 512.

^b *Influenza as a Cause of Insanity.* *Edinb. Hosp. Rep.*, Vol. 1 (Case 8 p. 815.)

and persecution. She had violent fits of crying, sometimes struck her daughters, and finally became so noisy and destructive that she had to be sent from home.

On admission she was very miserable, crying loudly and volubly bemoaning her fate, and full of suspicious delusions, whilst at the same time conscious of her illness. In addition to the uterine sensations mentioned, she complained of giddiness, and weight on the top of her head; the heart's action was feeble, and the pulse weak and rapid (100), but the temperature was not raised and no further abnormality could be detected.

After a transient improvement, lasting for some months, the patient relapsed and became noisy and unmanageable, and subsided into the condition in which she has remained more or less ever since, in fair physical health and very stout, but delusional and suspicious, and subject at intervals (mostly of ten days to a month) to attacks of violent angry excitement during which she is very noisy and abusive, and has occasionally to be secluded. The excitement may last for one or several days, and is usually followed by headache, giddiness, pain in the chest, and sometimes palpitation, compelling the patient to remain in bed for a day or so, after which she is for a time quiet and comparatively good-humoured; but gradually works up to another similar explosion, a premonitory symptom of the coming storm being the production of voluminous letters, closely-written and crossed. During these attacks the temperature has never been found above normal.

On several occasions during the first two years of her illness there appeared after such fits of excitement patches of erythema, symmetrical in distribution, and situated mostly on the arms, but also on the breast. They were perhaps merely local accentuations of a slighter general erythema also present. None were noted during the two following years, but this would not necessarily exclude their occurrence, as the patient was so very irritable that it was not advisable to interfere with her in the way of examination more than necessary. However, in the end of April, 1894, an attack of excitement having just passed off, an eruption of small purpuric spots was observed on the chest and back of shoulders, and immediately afterwards larger extravasations on one shoulder, both wrists, and just above the right knee, appearances which the delusional suspicion of the patient promptly fixed on as evidence of poisoning. Iron was administered, and there was no return of excitement or ecchymosis until the beginning of June. During the first half of that month there were repeated fits of excitement—four in all—and fresh ecchymoses kept appearing on the arms and

elsewhere, the most notable being a large black patch, in the centre of which, under a pale spot, was a small hard lump. Round this patch, which appeared on June 2nd, and was situated on the right wrist, a slighter discolouration extended, covering the back of the wrist and hand. All the spots appeared like ordinary bruises and varied in size from that just described to that of a threepenny piece or less. On this occasion also some blood was evacuated by the mouth, but its source was not ascertained.

On June 26th the patient received an accidental contusion in the left iliac region, which caused some blackness and pain, but was not much complained of at the time. After the next fit of excitement, however, which occurred a week later, and was very violent, the discolouration assumed an intense purple-brown tint, and extended all over the lower left region of the abdomen and down into the groin. There was also much stinging pain in this region, which lasted after the discolouration had disappeared. In addition to this several spots appeared on the legs and one on the right forearm. Iron was again administered for a time, but the patient soon refused to take it, asserting that it was given to produce the spots. Lemons were also given with much the same result. Slighter excitement about July 24th was followed by the appearance of spots in the centre of the chest, and on the shoulders and thighs, another fit early in August by a spot about an inch square in the right palm, extending to the back of the hand, a patch to the inner side of the right thigh, and a number of purpuric spots, with soreness, about the lower part of both calves and ankles. After an attack on August 13th a spot, which lasted only two or three days, appeared on the extreme tip of the tongue, and the gums were sore and looked a little spongy. This and the haemorrhage from the mouth in June are the only instances of implication of the mucous membranes. In the end of August, again, excitement was followed by spots on the left hand, arm, calf, and breast. A faint fit also occurred at this time, and the patient was confined to bed for a day with giddiness and "flapping of the heart." A large ecchymosis over the back of the left elbow and a small one in the middle of the forearm in front were noticed after another attack in the middle of September.

For the remaining facts I am indebted to Dr. Middlemass. A very violent outbreak took place about the end of September, and on the following day a number of ecchymoses were observed, one on the right upper arm being especially dark and well marked. After this no further outburst seems to have occurred for several months, and the patient was able to take part in the Christmas festivities.

On the morning of Feb. 5th she quite suddenly broke out into a fit of excitement, and a few hours later some slight ecchymoses were noticed, but there is a doubt whether these could have appeared after the attack. After this very marked improvement took place in the patient's condition, and has persisted to some extent ever since. There have been occasional fits of excitement and eruptions of haemorrhagic spots (the last on July 17th), but the former have been less frequent and less severe, and the latter much less marked. In fact she has so far improved as even to suggest the chance of her ultimate recovery.

Thus every attack of excitement since April, 1894, has been followed by, or at least associated with, an eruption of spots of ecchymosis, and no such spots appeared in the intervals. The *exact* time of their appearance could not always be ascertained, as information regarding them had to be awaited from the patient herself. The outbursts, which sometimes showed a rough fortnightly and at other times a monthly periodicity, but were occasionally quite irregular in their recurrence, followed in a general way the type above-mentioned. The spots varied greatly in number, size, and position, as may be gathered from the preceding account. They rather favoured the extremities and never appeared on the face; and on only two occasions, as before observed, were mucous membranes involved. Sometimes there was decided symmetry, but most often not. The larger spots had exactly the appearance of bruises, both when fresh and as they faded, being at first of the bluish colour characteristic of haemorrhages into the deeper strata of the cutis—i.e., in the typical position of those due to rupture of vessels. In the case of the large haemorrhage of semi-traumatic origin, however, the brownish colour indicated that the blood had reached a more superficial plane. The temperature, whenever taken, was found to be normal. The heart's action was rather feeble. No abnormality has been found in the urine. I obtained a sample of the blood only on one occasion, and had to examine it under such disadvantages that nothing could be made of it, except that there appeared to be a large number of microcytes. The patient's irritability rendered such investigations practically impossible.

In seeking to elucidate the causes of these curious phenomena, a number of facts must be kept in mind. We may safely exclude all thought of a bacterial origin for the haemorrhages; the low temperature and normal urine, together with the invariable connection with outbursts of excitement effectually negative such a theory, so that we have to fall back on congestion, vascular disease, and, possibly, altered conditions of the blood. Probably all three were effective. Thus, the patient was of a fair, florid complexion, a type especially liable to cutaneous hyperæmia; she was at a time of life when flushings are common, and she suffered from attacks of excitement of a somewhat hysterical character, such as are known to cause dilatation of the cutaneous arteries. At the same time the heart was weak, and the shouting would further tend to retard the venous return. We have, then, the combination of active and passive hyperæmia, which, according to Unna, may suffice to produce rupture, and which in this case did give rise to erythema, as has been related. Actual ruptures did not take place for four years from the commencement of the disease, and since then have invariably accompanied excitement, which facts compel us to assume the existence of some gradual vascular degenerative process. This assumption is further borne out by the facts that the patient was suffering from a form of insanity—melancholia—in which disease of the circulatory system is stated to be common,* and that where there certainly was some actual unsoundness of the blood-vessels as the result of traumatism, the tendency to haemorrhage was enormously increased. Regarding the nature of the degeneration it would, of course, be idle to speculate in the absence of histological evidence, but it would seem that it must be of no irrecoverable degree, the ecchymoses having been so much less marked of late. Lastly, Dr. Macphail states^b that periodic attacks of maniacal excitement cause temporary deterioration of the blood, the number of red corpuscles and quantity of haemoglobin being both reduced, while the number of microcytes is increased during the attack.

* Dr. C. F. Beadles. *Journ. of Ment. Sci.* Vol. **XLI.**, p. 83.

^b *Dict. of Psychol. Med.*, Art. "Blood."

The latter condition, at all events, appeared to be present in this case, so that haemic deterioration may also have played a part, whether by producing a temporary further lowering of the vitality of the vessel-walls, or by change in the consistence and coagulability of the blood. That the principal causes were cutaneous congestion acting on the degenerated vessels seems to me most probable, and, I believe, most of such cases are capable of being explained similarly, without the necessity of having recourse to that *refugium peccatorum*, direct trophic nervous influence.

In conclusion, I have to thank Dr. Clouston for permission to use this case, and various past and present members of the Morningside staff for sundry details regarding it.

INHERITED AGE.

DR. B. W. RICHARDSON, F.R.S., gives (*Asclepiad*, No. 42) a series of observations on the duration of life of the offspring as compared with that of the parents. He considers that if the ages of the two parents and of the four grandparents be added together and divided by six, the age of the case in point will be told, with an average variation of not more than two. If the ages of the parents are high the offspring tends to improve on them, if low (say an average of 40 or lower), the life of the offspring will probably be still shorter.

THE SPLEEN AS A BACTERICIDE.

HENRY S. UPSON, M.D., writes (*Medical News*, Philadelphia, LXVI, 14) on the spleen as a bactericide. He thus sums up:— “In acute infectious diseases the spleen is enlarged, as if in an effort to combat the effect of the poison. Some men and certain entire species of animals possess immunity, and recovery takes place from these diseases by germicides produced in some part of the body; the spleen does without doubt contain germicides, and probably, therefore, elaborates them. It is hoped that experiments with the administration of spleen in this class of diseases, particularly in tuberclosis, malaria, and typhoid fever, may yield not only favourable results, but may throw additional light on the functions of the spleen analogous to that which has been thrown on those of the thyroid gland. Such experiments should be made as far as possible with the spleens of animals immune from the diseases experimented on.”

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

ANTISEPTIC AND ASEPTIC SURGERY.

1. *The Treatment of Wounds, Ulcers, and Abscesses.* By W. WATSON CHEYNE, M.B. Edin., F.R.S., &c., &c. Edinburgh and London: Young J. Pentland. 8vo. Pp. 197. 1894.
2. *The Aseptic Treatment of Wounds.* By Dr. C. SCHIMMELBUSCH, Privat-Docent and Assistant Surgeon in Professor von Bergmann's University Clinic at Berlin. Translated by ALFRED THEODORE RAKE, M.B., B.S. (Lond.), &c. London: H. K. Lewis. 8vo. Pp. 250. 1894.

THE publication of these two books almost simultaneously in England, inevitably suggested a retrospect and a comparison—a retrospect of the changes which have taken place since the early days of Listerism in the methods of wound treatment; and a comparison of the methods of antisepticism and asepticism—friendly rivals with a single aim—as carried out in England, the motherland of this improvement of surgical practice, and in Germany, the colony, so to speak, where it has taken the firmest root and, perhaps, attained to the most perfect development. The one book, written by Sir Joseph Lister's most conscientious follower, may be taken to represent the latest views and the fully-matured wisdom of the master; the other, written by von Bergmann's chief assistant in the University Clinic in Berlin, is a full and accurate index of the methods and practice of the first surgical centre in Germany—methods which are rapidly supplanting those in universal use during the past decade.

At the very outset it may be asked in what does aseptic differ from antiseptic surgery? Are they not different terms

for the same thing? The distinction ought to be known to every well-trained student; but there are unfortunately many leading surgeons to whose minds the terms convey little, if any, difference; only their mortality sheet "points the moral and adorns the tale." Put in a nutshell, the difference between "aseptic" and "antiseptic" surgery is this:—Aseptic surgery obviates by its methods the possibility of wound-infection; antiseptic surgery does its best to neutralise by chemical or other means the effects of the poison either inherent in the wound itself or introduced into the tissues by the careless and septic operator.

Mr. Watson Cheyne describes the method of antisepsis which is employed as follows:—The first point is to disinfect the skin, "the most common seat of pyogenic organisms." The substances "employed for this purpose are either 1 to 20 carbolic acid lotion, or a strong solution, 1 to 500 or 1 to 1,000, of corrosive sublimate." Sir Joseph Lister still adheres to the plan of applying to the part for a short time before the operation "a 5 per cent. watery solution of carbolic acid." Here in full is Mr. Cheyne's plan:—"The method which I now always employ for disinfecting the skin is, in the first instance, to shave the part to be operated on and a large area around, and then wash it thoroughly with soap and a mixture, introduced by Sir Joseph Lister, of 1 to 20 carbolic acid lotion containing a 500th part of corrosive sublimate in solution; the part should also be shaved." [We should say this ought to be an overnight preliminary.] "Having washed away the greater part of the grease in the first instance in this manner, I then saturate the surface with turpentine." This is then washed off with soap and water and a nail-brush (!), and "this performance is, as far as I can judge, both clinically and bacteriologically, thoroughly efficient." Attention is next directed to the cleaning of the operator's nails, and then we come to the sterilisation of the instruments. "This is generally quite satisfactorily accomplished by immersing them for two or three hours before the operation in 1 to 20 carbolic acid solution. [What if three or four operations had to be done consecutively, involving the use of the same instruments?] Some surgeons, however, more especially abroad, are much

more careful with the disinfection of their instruments, and boil them for ten minutes or a quarter of an hour immediately before the operation." This, however, together with the addition of salt or soda, Mr. Cheyne regards as "an unnecessary precaution," except in specially infective cases. As regards sponges the author sees no objection to their employment, and—a statement we beg leave to differ from—"they are certainly far more efficient for the purpose for which they are required." There are very few operations in which sponges can not be efficiently and harmlessly superseded by gauze or sterilised wool. And here, in the form of an *axiom*, comes the most astonishing statement from one familiar with the results of culture experiments. "We may take it as an axiom," writes Mr. Cheyne, "that any substance which is thoroughly soaked in 1 to 20 carbolic acid watery solution for twenty-four or say forty-eight hours is absolutely disinfected, and therefore one need not fear the conveyance of infective material by means of sponges if they are always kept in these solutions when not in use." Coming to deal with the wound, Mr. Cheyne writes as regards the arrest of bleeding:—"I must confess that I do not pay such particular attention to it as I used to do, or as some surgeons do, because the oozing from the smaller vessels is easily stopped by pressure, which I *usually* employ as a substitute for a drainage tube." We have italicised this word "usually." Does Mr. Cheyne ever omit pressure along with a drainage tube? Knowing the extreme difficulty of closing the crevices of any wound by pressure, no matter how well regulated, this is a dangerous doctrine for a teacher to put forth; but still more so is the theory that a slight amount of oozing in a wound is absolutely innocuous. No more baneful doctrine ever was promulgated. We know, and experiment and experience have confirmed it, that if we want a favourable nidus for the growth of bacteria in a wound, nothing more suitable can be found than the inclusion between the wound surfaces of some recent blood-clot, and we then have the superlative conditions for the growth of septic organisms. The subject of sutures is passed over lightly. "Chinese twist, as it comes from the manufacturer, is almost quite aseptic; and all that is requisite to ensure its asepticity is to keep it for

a few days in 1 to 20 carbolic acid solution." Oh ! the universal utility of that 1 to 20 carbolic solution ! No boiling, even, is required ! We can only state that the Chinese twist we get does not possess this happy immunity from germs. We would also remark that we do not envy the feelings of the surgeon who was engaged in a delicate operation after his knives had been lying from two to three hours in the immaculate 1 to 20 solution. Our experience is there would be very little edge on them. Mr. Cheyne recognises the advantages of the abolition of the spray and the constant flooding of the wound with carbolic acid, with the result that an enormous quantity of serum was poured out, preventing healing, necessitating frequent changes of dressings, and giving the amplest means of access to all kinds of bacteria. As regards the dressing, Mr. Cheyne uses Lister's double cyanide gauze (mercury and zinc), which he keeps in 1 to 4000 bichloride of mercury solution. Sir Joseph Lister wrings it out of 1 to 40 carbolic lotion before applying it, in order also to get rid of the free bichloride of mercury, which is always present. The further stages are best given in Mr. Cheyne's words :—" Having placed a few layers of gauze over the wound and the surrounding parts, large sponges, according as is necessary, are then thoroughly wrung out of the antiseptic solution and arranged over the region of the wound—of course only in cases where no drainage tube is employed ; further layers of gauze are then placed outside the sponges, and over all a thick mass of salicylic wool, and then a bandage, put on with fairly firm pressure so as to bring the deeper parts of the wound in contact. The moisture in such a dressing very soon dries, and, in the course of a day or two, it becomes a dry dressing, which has certain advantages, in that it adheres firmly to the skin, and that the fluids being concentrated bacteria cannot spread inwards. The object in employing the salicylic wool is not so much to furnish an additional antiseptic layer as to apply a material which, while it permits evaporation, at the same time leads to the diffusion of the blood and serum over a considerable extent of the cyanide dressing." We fail to reconcile the statements contained in this paragraph. If a dry dressing has "certain advantages," why not employ it

from the beginning ; and, moreover, if a pad of salicylic wool admits of evaporation so as to convert a moisture into a dry dressing, it cannot at the same time lead to the diffusion of the discharge over a large area of the subjacent material. "Such a dressing is left undisturbed for about ten days, unless there is some reason for changing it, such as discomfort, *fever*, or a suspicion of the occurrence of sepsis." Here no distinction is made between the *immediate* or "aseptic" fever ; and the *delayed* or "septic" fever—the important one ; and the occurrence of fever (which we have italicised) is given as an indication for changing the dressings. Mr. Cheyne objects to the methods employed in Germany that they can succeed in the hands only of a skilled bacteriologist. If that were true it would be a fatal objection. But that it is not so we trust to briefly demonstrate here ; and, moreover, we know that it is carried out in this country with perfect accuracy and success by men who are entirely unacquainted with the methods of bacteriology.

DR. SCHIMMELBUSCH's book, which has been most excellently translated by Dr. Rake into clear and accurate English, represents, as we have hinted above, that development of Listerism which, grafted on the Continent on the parent tree, has now completely overshadowed it by the luxuriance of its growth and foliage. Here, however, be it understood that we are not detractors from the transcendent merit of our distinguished countryman. It was Lister who, by his teaching and experiments, demonstrated the possibility of aseptic surgery ; and if others have travelled further and improved on the teaching of the master, still to him belongs the supreme credit of being the pioneer of the most epoch-making advancement that surgery has ever known.

Recognising two main sources of the infection of wounds—viz., by the air and by contact, the opening chapters of Dr. Schimmelbusch's work deal with the modes of conveyance of infection, the methods of disinfection, and the organisms which are the prime excitors of unhealthy wound action ; the principal conclusion being that heat applied in some form is not only the most universally applicable, but the most potent, of all the means available for germ destruction. We

cannot, however, boil our hands or the skin of our patient; hence, for the disinfection of these, other, if less assured, methods are necessary. And here we cannot do better than transcribe the rules laid down in von Bergmann's clinic:—

“1°. The skin is energetically scrubbed with soap in water, as warm as possible, for at least a minute.

“2°. It is then carefully dried and rubbed with sterilised towels or pieces of gauze; particular attention is paid to the creases and folds of the skin, which are cleaned with a wire nail-brush. The space under the nail is the part that is richest in germs, and therefore requires special care.

“3°. The skin is rubbed with a piece of sterilised gauze and eighty per cent. alcohol for about a minute.

“4°. It is then washed and rubbed with towels and one in 2000 solution of sublimate.”

Some surgeons also use ether to remove the fatty secretions which harbour bacteria from the surface, and this is in many instances an excellent precaution. This leads us naturally to the disinfection, or, more properly speaking, the sterilisation of the metal instruments. As the result of many experiments it has been found that the most efficacious and most generally practicable mode of sterilisation of instruments is by boiling for five minutes in a 1 per cent. solution of sodium carbonate. This not only prevents rusting, but prevents blunting of knives, provided that the instruments are put in the steriliser in suitable racks, so as to prevent their being jostled against one another in the processes of ebullition or moving. In this way, so short is the time necessary, instruments can be freshly boiled between operations, and thus the danger of infection from one case to another is almost reduced to a minimum. After boiling, the instruments are placed in trays containing a solution of carbolic acid and sodium carbonate (aa 1 per cent.). Next, and chief in importance, we come to the dressing, and the conditions laid down for its asepticity are three-fold:—“1. It must absorb the secretions of the wound thoroughly; 2. Be itself free from pathogenic germs; and 3. Act antiseptically, so as to prevent decomposition of the secretions absorbed.” Of these it is evident the last is the most important. Of the materials used by far the best is gauze, and from motives of

cheapness this may be combined with cotton-wool, moss, or peat-dust; but gauze in thick layers forms alone the ideal dressing. Sterilisation is effected by means of nascent steam in sterilisers built on the principle of Koch's, and capable of thoroughly rendering innocuous all contained germs in about 30 to 45 minutes. Thus several sets of dressings can be contained in the steriliser and only removed as required; or they may be contained in boxes, and then kept closed in them until wanted. In the same way sponges are completely abolished, and pads of gauze sterilised in the same chamber, and then wrung out of some mild antiseptic, are used instead and immediately destroyed after each operation. As regards the wound, the most minute care is taken to ligature every point which shows the slightest tendency to ooze, and no wound is ever closed until its surface is perfectly dry. If a large amount of parenchymatous bleeding exists primary closure of the wound is not even attempted, but it is packed with gauze for a few days until the surfaces are glazed, and then they are brought together. Primary union occurs in wounds thus treated. The wound being closed, the dry dressing is applied. No antiseptics are included in the gauze, for repeated experiments have shown "that a dressing which is absolutely dry does more to check the growth of organisms than all the antiseptics that have been recommended for this purpose." . . . "A proper use of evaporation," further writes Dr. Schimmelbusch, "has the inestimable advantage over dressings impregnated with antiseptics, that while it checks the growth of bacteria it cannot hurt the patient. The use of antiseptics in a dressing is always a *remedium anceps*; small quantities of the antiseptic do not prevent the multiplication of germs; large quantities often cut both ways—they act prejudicially for the fungi, but also for the wound and the patient. Without always causing severe general intoxication their local effects are very important and troublesome. Severe local irritation is often set up in an unpleasant manner under antiseptic dressings, and increased discharge as well as eczema of the skin may often call in question all their advantages." Every surgeon who remembers the days when wounds were kept in a constant vapour-bath by means of macintosh dressings, when serum was poured out in enormous quantities, will be interested to learn that the use of such dressings is now almost entirely abandoned.

nous quantities and carbolic freely applied to the skin, will endorse the statements in these closing sentences. These dressings seldom require changing; they may be left untouched for eight or ten days, by which time the wound will generally be found soundly healed. The cost of dressings—the great objection to *antiseptic* ones—is thus reduced to a vanishing point—the one heavy initial expense being the steriliser, the gauze itself only costing 3s. 9d. to 4s. 6d. for a piece of 44 yards.

The author in subsequent chapters deals with the disinfection of rooms, their preparation for an operation, &c. ; but into these subjects we do not intend to enter. It only shows the thoroughness of the book. One of the most important chapters is that in which he deals with emergency dressings. Here again fire and water are the essentials; for the dressing freshly washed and ironed linen is almost aseptic. In this way aseptic surgery may be applied even under apparently adverse circumstances; and we cannot do better than quote the eloquent words with which the work closes. Writing of temporary dressings he sums up :—"In the great majority of cases that is all that is required, immediate operation can only be called for under the most exceptional conditions; but even then aseptic treatment in the hands of those who understand it shows its greatness and celebrates its greatest triumph in the simple and unassuming methods which it affects. Fire, water, and some means of boiling it being given, the true surgeon, and one who has imbibed the true spirit of asepsis, will be at once at home and will improvise everything else. Boiling water provides him sterilised instruments, sterilised thread or silk for ligatures or suturing, and sterilised though wet dressings made from boiled linen compresses squeezed out. In this way it is conceivable that a surgeon, miles away from any civilisation, should carry out an amputation, the ligature of some great vessel, or an urgent herniotomy, with a result, it may be, not inferior to that attained on the marble floor of a modern operating theatre." That alone is a strong, an overwhelming argument in favour of the system.

One word personally for the faith that is in us. We have seen both methods tried with perfect completeness in every

detail in the hands of the most brilliant operators, so that the personal equation may be eliminated, and we have been more and more convinced that the aseptic methods are not only immeasurably superior in simplicity of detail and of preparation, but that they also give the highest security as to the success of the operation and the life of the patient. And these, after all, are the most urgent and pressing of the needs of surgery, whose aim is the removal of disease and the prolongation of human life.

R. G. P.

A Treatise on Diseases of the Skin, with special reference to their Diagnosis and Treatment: including an Analysis of 12,000 Consecutive Cases. By T. M'CALL ANDERSON, M.D., Professor of Clinical Medicine in the University of Glasgow. Second Edition, Revised and Enlarged. London: Charles Griffin and Co. 1894. 8vo. Pp. 760.

DR. M'CALL ANDERSON's book has reached its second edition, and therefore needs little but welcome at our hands. In noticing the first edition we called attention to the purely clinical and therapeutic standpoint from which skin diseases are treated; and from this, in revising and re-writing portions of the book, no departure has been made. It is still to a large extent a record of an exceptionally wide clinical experience. The book is excellently produced, and some plates and illustrations which have appeared in other journals are here incorporated in the text. But the pages have sadly lacked careful proof-reading—even prescriptions and paragraphs which were correct in the previous editions are here marred and sometimes rendered unintelligible by typographic errors. Who, we wonder, will decipher that curious ingredient of Pfaff's formula for canities in its present dress:—“Olei overum recens pressi ʒi.” In the previous edition it is correctly quoted from Hebra. Apart from frequent ordinary errors we may note “*epidorsis*,” “*cheiropompholix*” *passim* (even in index), “*Uratch*,” “*Felttröpschen*,” and a host of minor errors which it would take a page to chronicle. This careless revision, in view of the multiplicity of collaborators, is inexcusable.

In other respects, however, the book has been well written

up to date. The chapter on *Eczema seborrhoicum* is from the pen of Dr. Unna himself, and deals exhaustively with its features and treatment. Others who contribute articles are Drs. Macewen, Cameron, Savill, who writes of *Dermatitis Exfoliativa Epidemica*, and Turner, who has revised the articles written by the late Dr. Christie for the first edition on the diseases of foreign lands. An abstract of all the cases hitherto published in the *International Atlas of Rare Skin Diseases* has been compiled by Mr. Thomas Bryce, and forms an appendix to the volume. The number of illustrations has also been considerably increased, and two coloured plates are added. We can only repeat what we have previously said, and recommend the work as a sound and reliable guide to the clinical features, diagnosis, and treatment of skin diseases. It is none the less valuable in that it bears from first to last the impress of the author's own personality and teaching.

R. G. P.

Atlas of Clinical Medicine. By BYROM BRAMWELL, M.D., F.R.C.P. Edin., F.R.S. Edin.; Assistant Physician to the Edinburgh Royal Infirmary, &c., &c. Volume III. Part II. Edinburgh: T. & A. Constable. 1895. Folio. Pp. 48.

PERHAPS the most attractive feature in this fasciculus of Dr. Byrom Bramwell's great work is the series of ten plates—two illustrating the rare skin disease, ichthyosis; one, multiple cancer of the breast and other organs; four, congenital syphilis in all its horrors; two, progressive muscular atrophy; and one, cyanosis in a child. The description of this last has yet to appear.

The letterpress of this part of the *Atlas of Medicine* is quite up to the mark in point of interest. It contains three *brochures*—one on hereditary or congenital syphilis, one on progressive muscular atrophy, and the third on the progressive muscular dystrophies.

The first article is introduced by the details of a most interesting case of gumma of the medulla oblongata in a boy of six years, whose symptoms were—severe frontal headache, right hemiplegia, paralysis of the tongue and difficulty

in swallowing. The tongue was atrophied and wrinkled, and was the seat of irregular fibrillary movements or twitchings. Dr. Bramwell's diagnosis was that, notwithstanding the absence of optic neuritis, a "coarse" lesion of the medulla oblongata existed in the form of a tumour, and his first impression was that this tumour was scrofulous. The prognosis was, therefore, extremely bad. The treatment prescribed at the first visit, on March 21st, 1893—namely, good feeding, cod-liver oil, and a mixture containing dilute hydrobromic acid and *nux vomica*—was not followed by any improvement. On July 1st, 1893, the boy's mother showed Dr. Bramwell a round ulcer about the size of half-a-crown on her arm. The ulcer was undoubtedly specific in character. It gave him the clue to the real nature of the case. There could be no doubt that the mother was suffering from tertiary syphilis. He at once concluded that the intra-cranial tumour in the boy's case was probably syphilitic, and, accordingly, he increased the dose of iodide of potassium, which the boy had been taking for some time, from seven to ten grains three times a day, and ordered, in addition, a grain of grey powder night and morning. On December 14th, 1893, it was noted—"The patient is very well; he has gained flesh and is now, his mother says, 'as fat as his skin can hold.' The paralysis of the arm and leg remains much *in statu quo*; the slight facial paralysis has cleared off; the tongue can be moved more freely; it is still wrinkled and markedly atrophied, and is still the seat of fibrillary twitchings."

The boy then remained well until the middle of March, when he began to complain of severe pain in the head, nape of the neck and upper part of the spine. He became very feverish, but did not vomit. Epileptoid convulsions then occurred, he became insensible and died on April 4th. Dr. Cowan Guthrie, who attended him, informed Dr. Bramwell that the cause of death was cerebro-spinal meningitis, which apparently had its starting-point in the old lesion at the base of the brain.

The progressive muscular dystrophies which the author discusses are—pseudo-hypertrophic paralysis, the juvenile form of myopathic muscular atrophy of Erb, the facio-

scapulo-humeral type of Landouzy and Déjerine, the hereditary form of progressive muscular atrophy of Leyden, the (purely) atrophic form of myopathic muscular atrophy, generalised progressive muscular atrophy of early childhood, and the peroneal type of progressive muscular atrophy.

Hygiene and Public Health. By LOUIS C. PARKES, M.D., D.P.H. Lond. Univ.; Fellow of the Sanitary Institute, and Member of the Board of Examiners; Lecturer on Public Health at St. George's Hospital Medical School; Medical Officer of Health and Public Analyst for the Parish of Chelsea. Fourth Edition, with illustrations. London: H. K. Lewis. "Practical Series." 1895. Crown 8vo. Pp. 550.

WE need do little more than call attention to the publication, after the lapse of only three years, of another—the fourth—edition of this popular text-book.

There are not many changes, but the work has, nevertheless, been well kept up to date. In the first chapter on "Water" reference is made to the evidence tendered by all the witnesses before the Royal Commission on Metropolitan Water Supply (1893), to the effect that the efficiency of sand filter beds in intercepting bacteria is due to the formation of a superficial gelatinous deposit, or colloid film or membrane, on the top of the sand. This film forms within two or three days after periodical renewing of the layer of sand which forms the filter bed. In connection with the question of sand filtration, Koch's paper on "Water Filtration and Cholera," of which a translation was given in the *Report of the Medical Officer of the Local Government Board* for 1892-93, is freely quoted.

At page 131, the author mentions—apparently with approval—the *slop-closets* which were originally introduced by Dr. Alfred Hill, Medical Officer of Health for Birmingham. In these, excreta are carried away by means of the household waste waters alone, without the use of flushing cisterns.

A tolerably full abstract of the *London Building Act*, 1894, Part V., which provides for open spaces about buildings and

regulates the height of buildings, is given on pages 246, 247, and 248.

Lastly, at page 450, a brief allusion is made to the anti-toxic treatment of diphtheria and the preparation of the antitoxin serum is clearly described.

It gives us pleasure to say that, in our opinion, Dr. Parkes' text-book is one of sterling merit, well written, and concise.

Posological Tables, Appendix on Poisons, Index of Diseases and Medicines, arranged according to their Actions. By WILLIAM CRAIG, M.D. New Edition. Edinburgh: E. & S. Livingstone. 1895. Pp. 100.

THIS is a reprint of the old edition. The first table gives the different medicines with the adult dose, actions and uses, and forms of administration, and will serve as a useful *aide mémoire*. The index of diseases is of but little use, but the classification of medicines may occasionally prove of service. The book will probably be more used by students to refresh their memory before examination than by men in practice.

A Handbook of Hygiene. By A. M. DAVIES. London: Charles Griffin & Co., Limited. 1895. Pp. 590.

THIS is an attempt to combine, in a small space and portable form, all that is essential in the study of Hygiene, the author making but little claim for originality. As a rule, the author has "boiled down" successfully; but occasionally a little discursiveness occurs, as in the section on alcohol, the use of which is discussed in a much more popular than scientific manner, and even then not always accurately. For example, he gives:—"On the circulation alcohol acts (a) by increasing the frequency and force of the heart's beat; (b) by dilating the peripheral vessels and thus accelerating the flow of blood through them." It is now more generally believed that the increase of the frequency of the heart's beat is a narcotic action, produced by lessened inhibition. The author quotes no authorities to show that the heart's beats are increased in force; and,

as far as we are aware, none such exist. That the dilatation of the peripheral vessels accelerates the flow of blood through them is also a statement which needs verification, any experiments made on the exact action of alcohol rather proving the reverse.

The opening of Chapter VII.—Personal Hygiene—is another example of discursiveness; but, on the whole, the matter is as much compressed as is compatible with clearness, and the illustrations used assist the explanations, and are never inserted, simply because the publisher happened to have the blocks.

The limp leather binding of æsthetic colour, the rounded-off corners, and the gilt edges, make up such a fascinating *ensemble* that it is hard to avoid a little disappointment on finding inside a disquisition on D-traps, and such like, instead of poetry.

A Monograph on Diseases of the Breast: their Pathology and Treatment, with Special Reference to Cancer. By W. ROGER WILLIAMS, F.R.C.S.; Late Surgeon Western General Dispensary, and Surgical Registrar Middlesex Hospital. With 76 Figures. London: John Bale & Sons. 1894. 8vo. Pp. 572.

MR. WILLIAMS has been known for many years as an enthusiastic student of cancerous and allied tumours, and in this monograph he has collected in one volume all his scattered writings, and the conclusions at which he has arrived, after a painstaking and exhaustive study of the subject. We must congratulate author and publishers on the style in which the work is turned out—type, paper, and spacing, leave nothing to be desired. We cannot extend the same praise to the illustrations. Many of them are sketchy to an extreme, and even those derived from well-known works have undergone deterioration in the process of reproduction. Notably might we instance the figure on p. 69, representing the beautiful woodcut which illustrates Shannon's case of quadruple mammae in the *Dublin Quarterly Journal* for 1848. Nothing, however, can be more admirable than the thorough and systematic way in which Mr. Williams has dealt with his

material; and not only is the book brimming with information and cases, but a very plethora of reference is given for the use of all future workers in any department of this branch of surgery.

The book is written from a strongly evolutionary standpoint. The opening chapters deal with the "Ontogeny and Phylogeny of the Breast," "Morphology, Secretory Anomalies, &c," "Mammary Variations per Defectum," "Polymastia, with Special Reference to 'Mammæ Erraticæ,' and the "Development of Neoplasms from Supernumerary Mammary Structures." These are most interesting and suggestive chapters—interesting to the surgeon who looks for the causes of the conditions he is called upon to deal with; suggestive to the pathologist in view of the development of similar tumours in connection with other intermittently functional organs. So-called "sports" are very fully dealt with, and abstracts of all the important recorded cases are given. Although all tumours of the breast are included, the larger portion of the book is taken up with mammary cancer, its development, progress, and treatment; and in view of the enormous increase in malignant disease of this organ, and of its primary and secondary danger to life, it is the portion to which the surgeon will turn with the greatest degree of interest. Mr. Williams, of course, recommends the radical operation with which we have previously dealt in these pages, and which is now almost universally practised—even if not so thoroughly as is desirable. Speaking of the neglect of clearing out the axilla, he remarks—"In the immense majority of cases in which the axillary glands have been histologically examined after removal, they have been found to be invaded by the disease, and *this although in many cases careful clinical examination, before operation, had failed to detect their morbid condition.*" Once more we hope the words italicised will cause surgeons who neglect this necessary step of the operation to pause and tremble. After pointing out the *outer* paths of lymphatic affection, the author proceeds to those hidden and too-often neglected nooks in which the seeds of recurrence are allowed to germinate—"In close relationship with the inner side of the axillary vein is a group of glands, which are usually affected soon after the above-

mentioned group (i.e., those along the axillary tail of the mamma) with which they freely communicate. They may extend as high up as the clavicle, or even higher." And still further—"At the extreme summit of the axilla—in the space identified in Germany with the name of Mohrenheim—between the clavicle and the upper border of the *pectoralis minor* muscle, a few lymphatic glands are placed which receive branches directly from the breast. They sometimes (if always) require extirpation, which can be best done after removal of the sternal part of the *pectoralis major* muscle. In the interval between the *pectoralis major* and deltoid muscles, just below the clavicle, a few diseased glands may also be met with. These regions should always be explored." The author then describes in detail the operation which he himself practises, so as to expose all these regions, but it differs but little in detail from the operation as practised by any surgeon who does his work thoroughly.

To turn to another phase, we find the histo-pathology of the work fully up to date. All the most recent observations in connection with the pathology of breast neoplasms are noticed, and the due credit given to the respective authors—a feature that is conspicuous in all Mr. Williams' writings. The nature of Paget's disease of the nipple—one of the most recently debated questions—is fully discussed. The author regards with just scepticism the psorospermial origin of cancer, and adds a word of warning to surgeons that we would gladly emphasise, for in our experience also breasts have been needlessly removed on the theory of a "precancerous stage of cancer." While the evidence is so conflicting and inconclusive, he remarks that "it would be a very grave error to proceed to the extirpation of every breast affected with chronic erosive disease of the nipple and areola, in the absence of distinct signs of cancer, as some surgeons have done; for, as previously mentioned, recent statistical investigations have shown that only a small minority of these cases are ever complicated with the outbreak of cancer. Equally lucid and complete sections deal with benign and cystic tumours of the breast. In fact, the amount of material the author has digested is enormous; and one of the most remarkable features of his labours is this—that he has been able to com-

press the outcome of all into one moderately-sized and eminently readable volume. The latter is no small recommendation in this—pre-eminently—the age of dry-as-dust “memoirs.”

Elements of Surgical Pathology. By AUGUSTUS J. PEPPER, M.S., M.B., Lond.; F.R.C S., Eng., &c., &c. Illustrated with 99 Engravings. Fourth Edition. Rewritten and Enlarged. London: Cassell & Co., Limited. 1894. 8vo. Pp. 607.

MR. PEPPER's Manual is so well known and appreciated in Cassell's series that it has reached a fourth edition. This is testimony to the popularity of a book: we are happy to add it is also in this case a testimony of merit. We have already reviewed this work, so that little comment is necessary. Changes are numerous, and all in the direction of rendering the book a more reliable and accurate guide for the student of surgery. Among the new subjects dealt with are—“Mycetoma,” “Myositis Ossificans,” “Mastoid Disease,” and “Appendicitis,” though the account of the latter is decidedly inadequate to the importance of the subject, and no mention is made of the different causes which may give rise to this affection. We note also that in speaking of *molluscum contagiosum*, doubt is expressed as to the contagiousness of the affection. This is hardly in accordance with modern views. Apart from minor blemishes, the work is undoubtedly a sound and reliable guide to the subject, and no better preparatory introduction could be had to the larger text-books of pathology.

Thirty-fourth Annual Report of the Cincinnati Hospital to the Mayor of Cincinnati, for the Fiscal Year ending December 31, 1894. FRANK W. HENDLEY, M.D., Superintendent. Cincinnati. 1895. Pp. 160.

THE greatest number of patients under treatment in this fine hospital on any one day of 1894 was 440; the least, 333; the average, 380. 5,115 cases were admitted during the year, and 2,538 persons received “emergency treatment,”

without admission. The average weekly cost of each patient in the wards was 4·58 dollars.

The professional staff has been increased by twelve; two in the general medical department. Five special medical departments have been created—Laryngology and Rhinology, Neurology, Children's Diseases, Dermatology (skin and venereal), and Consulting Dentistry—with two physicians attached to each.

As usual, the nationalities of the patients were various. They are arranged under no less than 24 heads, besides "Unknown." Next to the United States, Germany contributed the greatest number; our own country following.

Needless to say the hospital is electrically lighted. The following passage illustrates American ingenuity, as well as American kindness, and the climate of Ohio:—

"The closing of the patrol-wagon entrance with doors that open by a simple electrical device at the command of the driver of the approaching wagon has been of signal benefit. Unfortunates brought to us by the police are screened from the gaze of the thoughtless curious; the horses often sweating after a hard run, are shielded from the cold weather; and the wagon crew can wait indoors until their case is disposed of. On a recent cold night, when the temperature was six degrees below zero on the street, the temperature of the closed entrance was twenty-seven degrees above."

O Archivo Medico da India: Jornal Mensal de Ciencias Medicas e Pharmacia. Gôa: 1895.

THE capital of the poor remains of Portuguese territory in India is in the happy state of countries which have ceased to have a history. Even the officials of the surrounding British districts know little of what the 300,000 inhabitants of Portuguese India, or the 20,000 of the once great city of Gôa, are doing or thinking. We welcome the sign of persisting vitality, for which we are indebted to the courtesy of the conductors of the medical journal of Gôa; which has completed the first year of a healthy infancy. The contents of the number before us are interesting and varied; including part of a paper on cereals and pulses as nutrients; and

a note on the *Acalypha Indica*. There are copious extracts from foreign periodicals, pharmaceutical notes, reviews, &c. China is not beneath our contemporary's notice, as the following excerpt from his "noticario medico" will show. It is headed "‘Celestial’ Justice”:-

“The Emperor of China, feeling indisposed, sent for four physicians of the Pekin Academy of Medicine. Interrogating each separately, he obtained four different replies upon his complaint and its remedy. The Emperor condemned each of his advisers to loss of part of his salary as a member of the Academy and as a court physician for one year. It is clear that in China it is a crime in a medical man to differ from his colleagues, and that when doctors differ the Emperor decides.”

A Pictorial Atlas of Skin Diseases and Syphilitic Affections in Photo-lithochromes from Models in the Museum of the Saint Louis Hospital, Paris. Edited and annotated by J. J. PRINGLE, M.B., F.R.C.P.; Assistant Physician to, and Physician to the Department for Diseases of the Skin at, the Middlesex Hospital, London. London: F. J. Rebman. 1893. Part I. Folio. Pp. 28.

THE publisher's preface tells us that this *Atlas* is intended as a pictorial representation of several of the famous models of dermatological and syphilitic cases at the Saint Louis Hospital, Paris, most of which have been executed by M. Baretta. The fasciculus of the *Atlas* which lies before us contains four coloured plates produced by the latest process of photo-lithography, for which reason they have been styled “photo-lithochromes.” These plates have been executed by the foremost Parisian artists and are certainly triumphs of art. They represent lupus vulgaris of the centre of the face, dermatitis herpetiformis (Duhring), a series of syphilitic chancrea of the genitals in women, and patchy purpuric erythema (purpura haemorrhagica) appearing in successive crops in a woman aged twenty-seven years.

Each plate is accompanied by explanatory text, often illustrated by beautifully executed woodcuts. The text is written by MM. Ernest Besnier, A. Fournier, Tenneson, Hallopeau, and Du Castel, Physicians to the Saint Louis

Hospital. They have had the advantage of the co-operation of Henri Feulard, Curator of the Museum of the Hospital, and also (as Secretary) of Léon Jacquet, formerly House Physician to the Hospital and Secretary of the Dermatological Society of France. Needless to say, that Dr. Pringle has faithfully translated the letterpress. His annotations are brief and confined to questions of nomenclature and references to English text-books and monographs.

The Curator of the Museum of the Saint Louis Hospital, M. Henri Feulard, gives an interesting account of the museum. He tells us that it owes its inception to M. Devergie, who, in 1865, when leaving the hospital, after having been on its staff for twenty-five years, offered for exhibition, to the Administration of Public Aid, a series of water-colour drawings which he had had painted for teaching purposes, and which illustrated the most important types of skin diseases. M. Husson, at that time Director-General of the Administration of Public Aid, cordially accepted M. Devergie's offer; and it was he who first thought of establishing a museum in the Saint Louis Hospital, for which laudable object he obtained a pecuniary grant from the State in 1869.

To the water-colour drawings presented by Devergie, some photographs taken by M. de Montmeja for M. Hardy, and some water-colour drawings by Bion of cases under the care of Bazin were added. M. Lailler also had several wax models made, which he placed in the museum. But the artist who produced them left France for America. M. Lailler looked about for a substitute, and after many inquiries amongst wax-modellers "he finally discovered a young man who, with a special gift for drawing and colour, surpassed everything hitherto accomplished in this direction." This modeller and artist was M. Baretta, who after a time was enabled to produce in a special new material, those models whose perfection is unrivalled, and which have gained the admiration of the whole medical world. Since 1867 M. Baretta has gone on adding to this priceless collection every year, so that at the close of 1894 the museum could boast of 1,800 examples of his work.

Besides M. Baretta's models, the museum also contains a collection of models illustrating venereal diseases, which

belong to Professor Fournier, some of which have been made at the Hospital Lourcine by M. Jumelin. Also, the private collection, particularly rich in surgical subjects, belonging to M. Péan, formerly surgeon to the Saint Louis Hospital, together with several models of cases of infantile syphilis, executed by the late Professor Parrot. Finally, besides the first drawings which were made for Devergie and Bazin and which formed the nucleus of the museum, the library possesses numerous drawings, photographs, water-colours, and oil paintings.

To reproduce the contents of this splendid collection in an *Atlas*, and so to render it accessible to all interested in the study of cutaneous and syphilitic diseases is the ambitious but praiseworthy task which Mr. F. J. Rebman has undertaken. So far as one can judge from the fasciculus of the *Atlas* now before us, success is sure to crown his venture. No trouble or expense has been spared in the publication of this first part of what is aptly described as a "Pictorial *Atlas*," and it gives us great pleasure to express the opinion that a physician or surgeon could not make a more profitable investment than to purchase this work, even at a cost of half-a-guinea for each part—for that is the advertised price. It is truly an international work which bids fair to mark an epoch in the study of Skin diseases. MM. Rueff et Compagnie, Paris, are the publishers of a French edition of the *Atlas*. The plates have been executed by M. Lemercier, also of Paris.

ALCOHOL AND PNEUMONIA.

JULIUS POHLMAN, M.D., gives (*Medical News*, Philadelphia, LXVI., 4) an account of experiments on dogs, showing the effects of alcohol on the lung tissue. He concludes that "the man of temperate habits, with lungs free from alcoholic inflammation, has from five to seven chances for recovery from pneumonia, when the drunkard has only one."

MUSTARD AS AN ANTISEPTIC.

ROSWELL PARK, M.D., claims (*Medical News*, Philadelphia, LXV., 25) that to make mustard into a paste and well rub it into the hands, is the best way to disinfect them.

PART III. SPECIAL REPORTS.

REPORT ON NERVOUS AND MENTAL DISEASE.*

By RINGROSE ATKINS, M.A., M.D.; Resident Medical Superintendent, District Lunatic Asylum, Waterford.

(Continued from page 75.)

III. NEURO-PATHOLOGY AND PATHOLOGICAL ANATOMY.

Etiology and Pathology of Acute Delirium (Acute Delirious Mania).—Rasori makes the following communication to the *Centrblatt. f. Bakteriologie*, XIV., B. No. 16:—A patient, aged forty-five years, was admitted into the asylum in a state of acute delirious mania. The attack began six days before admission simply with obstinate headache. Inquiry into the personal and family history failed to throw light on the cause of the disorder. The patient died within eight days, having exhibited, in addition to the ordinary symptoms, opisthotonus, clonic spasm of the facial muscles, and difficulty in swallowing, due apparently to spasmodic action of the muscles of deglutition. The necropsy revealed great congestion of the cerebral meninges, on the under surface of which were numerous small blood extravasations; also congestion and oedema of the brain. The cortex was softened in the right temporo-sphenoidal lobe. Tubes of broth and sugar were inoculated with fluid obtained from the subdural space, and kept in the incubator at a temperature of 35° C. Both media gave pure cultures of one and the same organism—a small bacillus with rounded ends, about three times as long as it was broad. This occurred singly and in short chains. It could be stained by the ordinary aniline

* The author of this Report, desirous that no contribution to the subject on Nervous and Mental Disease should remain unnoticed, will be glad to receive any publications which treat of it. If sent to the correspondents of the Journal they will be forwarded.

dyes, also by carbol. or by alkaline methylene blue, but not by Gram. The organism grew rapidly in all the ordinary media, alike at the temperature of the body and of the room. The mode of growth was not specially characteristic. Rabbits were inoculated with the pure culture in different situations—beneath the dura mater, skin, and nasal mucous membrane. When the first-named site was selected death ensued in two days; in the other cases in from four to six days. In all cases there was a marked rise of temperature, and signs of illness were manifested. *Post-mortem* examination showed in each instance great congestion of the cerebral meninges with haemorrhage on the under surface of the pia; also congestion and oedema of the brain. Microscopical preparations and cultures made from the subarachnoid fluid and blood showed the same bacillus as that inoculated, and this was also found in sections of the brain lying in numbers between the nerve elements (Dr. Goodall in the *Journ. of Mental Science*). Dr. Goodall, in the same number of the Journal, notes a case from the "Edinburgh Hospital Reports," in which Dr. Batty Tuke briefly records certain microscopical appearances in a case of dementia with delusions occurring in a patient aged twenty-five years. These he regards as indicative of a leucocytal action on cortical cells. The upper end of the ascending parietal gyrus was examined by the fresh (ether freezing) method. In the third and fifth layers, especially the former, a large number of the nerve-cells were affected as follows: "The body of the cell was highly reticulated and slightly coloured by a yellow amorphous material. The nucleus was enlarged in some instances and vacuolated. Around the cells, leucocytes were found in large quantities eating into the body of the cell as far as the nucleus in some cases, in others occupying the whole area of the cell. Between the cells of both layers leucocytes, enlarged neuroglia cells, and naked nerve nuclei were found scattered in large numbers. In no instance was a giant cell (fourth layer) found affected." Dr. Batty Tuke thinks it possible that the action of phagocytes on degenerated cells (as illustrated in this case) has been overlooked, or that the appearances have been misinterpreted. Bevan Lewis, in his chapter on the pathology of chronic alcoholism ("Text-book of Mental

Diseases"), speaks of the cells of the lowest layer of the cortex (spindle-cell formation; that is, the "fifth layer" referred to by Dr. Tuke) as being covered with heaps of "nuclear proliferations," which often conceal them from view. The cells also frequently show pigmentary change. These appearances can readily be seen. The third layer, however, does not present them. It is a matter of conjecture whether the condition seen in the case of the chronic alcoholics is identical with that described by Dr. Tuke. A cardinal point, however, is that Bevan Lewis ascribes the phagocytic action whereby degenerate cells are removed, not to the pericellular elements (be they nuclei or leucocytes) but to the neighbouring "scavenger corpuscles," which are quite different structures whatever their mode of origin. In Dr. Tuke's case there were, in addition to leucocytes, enlarged "neuroglia cells" between the nerve cells of both layers. To these, however, no importance is attached. Supposing the pericellular elements described by Dr. Tuke to have been leucocytes, and supposing, further, that they were exercising a phagocytic function, our conceptions upon phagocytoses, as it relates to the brain, must undergo notable modification. The rôle of phagocytes is in fact claimed for two classes of cell—certain cells of the neuroglia, and leucocytes. Morphologically, these differ widely, even if we admit that they have the same origin. In a recent study of the cortex cerebri of the rabbit in states of inflammation experimentally produced, Dr. Goodall was unable to convince himself of the phagocytic action of the extravasated leucocytes.

Cerebral Sclerosis.—In the "Archives de Médecine Experimentale," Dr. Chaslin publishes a contribution to the study of cerebral sclerosis, which has been abstracted and commented on in a recent issue of the *Journal of Mental Science*. The paper deals directly only with the particular form of cerebral sclerosis, frequent in epileptics. In some of these the lesions were visible to the naked eye, some convolutions being atrophied, indurated, rough or smooth, and the cornu ammonis and medulla oblongata were also more or less affected. One part of an altered gyrus contained some abnormal nerve-cells, and between them neuroglia fibrils; another part was formed solely of overgrown neuroglia. The

point of departure of this overgrowth appears to be the spider-cells. Chaslin uses a histo-chemical reaction or test, suggested by Melassez, to show that in these cases the proliferated material, as well as being morphologically, is also chemically very different from connective tissue. In milder degrees of change there is thickening of the superficial or neuroglia layer, forming a close network; in the next subjacent layer are fibrils of neuroglia, some of them described as traversing the protoplasm of spider-cells. The change is to a less embryonic state of the neuroglia, approaching that of the spinal neuroglia, and is entirely different from that found in general paralysis. Chaslin asserts that the neuroglia and connective tissue come from different sources, and that the proliferation in the cases forming the basis of his paper is of neuroglia of ectodermal origin (more recent investigation, *vide* Andriezen's paper in *Brain*, winter 1894, partially corrects this view).

Klebs, taking his stand on the structure of glioma, believed that the neuroglia in these cases is of nervous nature. Others hold the neuroglia, or in morbid cases the proliferated material, to be true connective tissue. Yet in syringomyelia and in Friedreich's disease there is pure neuroglia proliferation quite distinct from true connective tissue or its proliferation. Both forms may coexist yet remain separate—that is, without reciprocal encroachment, in some diseases of the spinal cord—for example, tabes. Achard also showed in the optic nerves two forms of sclerosis—namely, (a) pure neuroglia sclerosis; (b) connective sclerosis.

Firstly, denying, therefore, the connective nature of the sustentacular tissue of the nervous centres, Chaslin concludes, secondly, that the lesion he describes in the brain of some epileptics is not an actual chronic inflammation; and, thirdly, that this particular proliferation of neuroglia is set up by a disorder in the development and evolution of neuroglia, usually due to a congenital defect or vice. For this so-called "pure neuroglia sclerosis," he also proposes to specially retain the name "gliosis," thus marking its special character; its approximation, perhaps, to the formation of glioma, its constitutional and hereditary nature. The term cerebral sclerosis Chaslin uses in his paper, as affecting the cerebral

grey cortex only, there being in all cases proliferation of neuroglia either with or without palpable induration. Proliferation of the neuroglia (or scleroses) he divides into two classes—the inflammatory and the non-inflammatory. Among the former or inflammatory he places insular sclerosis, many or most cases of general paralysis, simple encephalitis, or meningo-encephalitis, toxic or infectious, infantile hemiplegia (or polico-encephalitis), the sclerosis following injury, &c. Among the latter or non-inflammatory scleroses are gliosis (used as in the sense as above stated), hypertrophic or tuberous sclerosis; that secondary to arrested or lessened nervous development, or to disease, or to senile involution, &c. These two classes may be mixed in a given case. Chaslin *concludes* that in the pathologically affected grey cortex of the brain the fibres and bundles found (other than the nerve fibres) are not of connective tissue. They form, at the expense of the neuroglia, a sustentacular tissue of ectodermal origin—a conclusion which is, however, not shared in entirely by Andriezen.

The cerebral sclerosis in epileptics is a variety of cerebral sclerosis attributable to a defect or vice of development. To that Chaslin reserves more especially the name gliosis, as being an alteration ordinarily hereditary and constitutional, and approaching gliomatous formation.

Cerebellar Lesion and Degeneration of the Spinal Cord.—In the January, 1894, number of the *Liverpool Medical Journal*, Dr. Alfred W. Campbell records an important and interesting case of thrombosis in the left inferior cerebellar artery. The patient was a woman, aged sixty-two years, who suddenly became giddy and fell off the chair on which she was sitting quietly knitting. There was apparently no loss of consciousness, but she experienced considerable weakness of the limbs, especially those of the left side, on attempting to rise, and she subsequently suffered from a severe attack of vomiting and headache. Three days later the left side was completely paralysed, and she talked foolishly. She became maniacal later, but the mental symptoms disappeared in a few days, the power in her limbs returned, and within four months of her attack she was able to take a five-mile walk. The only pain she experienced

was an occasional headache, and there was no evidence of loss or impairment of muscular sense. Six months after her first illness she became depressed and grew progressively worse, and three months later she was removed to an asylum. While she was there she had marked paresis of her left leg, and her memory was bad, but there was no ataxy or sensory anomaly. She accidentally fractured her left femur, but made a good recovery. She became, however, progressively more feeble, and died little more than a year after her admission to the asylum. At the necropsy, although the cerebral vessels were atheromatous, no gross lesion was found in the hemispheres. On the inferior surface of the cerebellum, on the left side, there was an old sclerosed area, where the substance of the organ was destroyed to a depth of a quarter of an inch, apparently as the result of a blocking of the inferior cerebellar artery. The spinal cord in its fresh condition appeared to be healthy. The kidneys were granular, and the heart muscle of both ventricles was tough and hypertrophied, and the cavities dilated. After hardening and staining, patches of degenerated fibres were found in the sacral cord in the position of the direct cerebellar, or crossed pyramidal tract of the left side, and also round the posterior root; at higher levels these patches increased in size, the direct cerebellar tract being extensively diseased, and the crossed pyramidal tract slightly so. In the upper dorsal region the antero-lateral tract was also affected, and the cells in Clarke's column were diminished in number. In the cervical region there was a trace of degeneration in the opposite antero-lateral tract, and also in the posterior column of the same side. Degenerated fibres were also found in both ventral and dorsal nerve roots along the cord. In the medulla and pons the degenerated tracts could be traced upwards until they apparently merged in the restiform body, but scattered patches of degeneration were found at the level of the sixth, seventh, and eighth nuclei. The case is believed by Dr. Campbell to prove the existence of downward conducting paths from the cerebellum to the cord.

The Cortical Facial Centre.—E. Brissaud (*Le Progrès Méd.*, No. 52, 1893) reports the case of a woman, aged eighty, who, after an apoplectic stroke causing transient right hemi-

plegia and aphasia, was left with a complete permanent right facial paralysis, involving the superior as well as the other divisions of the facial nerve. The right eyelid drooped, though it was still somewhat under the influence of the will. The right pupil was dilated, owing to senile amblyopia; the pupillary reactions were normal. The frontal folds were completely obliterated on the right side, though very marked on the left. Death occurred some two years later from cardiac insufficiency. At the autopsy there was found a single lesion, a yellow softening involving the foot of the left ascending parietal convolution confined to its inferior fourth. The frontal operculum, and the greater part of the parietal operculum, were intact. The two crura were symmetrical, but microscopical examination revealed numerous granular bodies in the region of the internal border of the left crus. The pons medulla and pyramids were symmetrical, and contained no microscopic evidences of degeneration.

A certain degree of paresis of the right side and some speech difficulty which remained after the stroke, while the cortical centres of the limbs were intact, is attributed by Brissaud to an insufficiency of the compensatory circulation from the obstruction remaining in the Sylvian region. Sections of the brain showed that the necrosis of the deeper portions extended from below upwards, and entirely in the deeper regions to the middle portion of the ascending frontal; leaving intact the whole superficies of the ascending parietal. This also helps to explain the slight paresis of the right arm, and the slowness and awkwardness of its movements that were observed during life. There were no signs of secondary degeneration in the centrum ovale, but there was a limited patch in the lower external portion of the corpus callosum (*Am. Journ. of Insan.*).

Vacuolation of Cortical Nerve Cells.—Dr. Alfred W. Campbell (*Journal of Pathology and Bacteriology*, II., No. 3, Feb., 1894), concludes, from a careful study of the cases reported, that vacuolation of the nerve cells is always the result of a toxic condition. He finds that the vacuolation may begin either in the nucleus, or in the surrounding protoplasm, or in both. In the cortex it is most frequent in the superficial layers. The constant accompanying condition

is fatty degeneration of the vascular musculature of the cortex. His conclusions are:—

1. That in all the conditions in which vacuolation has hitherto been described as occurring there is such a poison at the root of the disease. Idiopathic epilepsy cannot be excluded from this class.

2. The existence of vacuolation has been demonstrated in phthisis pulmonalis and acute lobar pneumonia, and in cases of certain acute infectious fevers, these being all instances of toxæmic diseases.

3. Vacuolation of the cortical cell is almost invariably associated with acute vascular degeneration.

4. Vacuolation of the nerve cell is probably an acute fatty change analogous to that occurring in the cells of other organs in the case of individuals dying of toxæmic diseases.

Vacuolation of the cortical nerve cells has been found, according to Dr. Campbell, associated with the following conditions: epilepsy, diseases produced by metallic poisons, such as arsenic, phosphorus, &c.; chronic insanity, dementia, and senile organic brain disease; chronic lung troubles, and in acute infective fevers.

The Pathology of the Pyramidal or Psychic Cells in the Brain.—At the séance of the Société d'Anthropologie, Paris, May 3, 1894 (reported in *Le Progrès Médical*, Nov. 21), M. Azoulay gave a statement of his studies on the pathological condition of the pyramidal or psychic brain cells. As we are aware, these cells possess numerous protoplasmic ramifications, all taking stains by Golgi's method. In the foetus these ramifications are fewer and are furnished with nodosities. Golgi has observed an alteration approaching the foetal condition in rabbits inoculated with hydrophobia, the pyramidal cell showing swellings analogous to those in the foetus. M. Azoulay found the same condition, in a case of insanity. He reported the findings in this case with Golgi's method, and concluded that this alteration might be found in any psychic affection, and that it reduced the cell functionally to the foetal state. The protoplasmic branches of the pyramidal cells are normally surrounded with numerous cylinder axes transmitting to them the impressions from the periphery.

It may be considered possible that these nodosities embarrass the contact of the protoplasmic stems and the cylinder axes, hence the mental disorders.

[It is interesting and of importance to inquire whether these minute "nodosities," described by Azoulay as found by him, in a pathological brain, are of the same nature or allied to the little bud-like projections observed by Andriezen on the protoplasmic branches in the normal condition of the tissues. If so, very different interpretations are put upon their presence or absence by the two observers—Andriezen considering their presence normal, and that they form part of the anatomical substratum of psychic function, while Azoulay looks upon them as degenerative in character, and that their presence reduces the functional activity of the affected cell elements.—*Rep.*].

Syringomyelia.—Agostini (*Revista Sperimentalista*, xxi., p. 8) reports a case of syringomyelia associated with hysteria, and discusses the diagnosis between these disorders in the incipient stages of the spinal disease. The following are his conclusions:—

1. Syringomyelia may be associated with hysteria, and in this case may cause confusion in the beginning of the ailment when the symptoms pertain only to the sensibility.
2. The appearance of the phenomena of progressive muscular atrophy, accompanied by diminution of electric excitability, and increase of mechanical excitability, the persistence of the muscular sense, support the diagnosis of a syringomyelic rather than a simply hysterical disorder.
3. The greatest differential diagnostic criterion in this as in other neuropathic affections is afforded by hypnotism, in which only the muscles anatomically affected do not respond in the cataleptic condition.—(*Am. Journ. of Insanity*).

The Pathology of Acromegaly.—Prof. Tamburini reports a case of this disease in the *Centralblatt f. Nervenheilkunde*, Dec., 1894. The patient was a woman in whom the first symptoms were noticed at the age of twenty. At that time menstruation ceased, and the lower extremities began to enlarge. Enlargement of the head was noticed later, and of the arms last of all. The hypertrophy reached the highest degree in the hands and feet. Some years after the begin-

ning of the disease she manifested delusions of persecution with violent excitement, terminating in dementia. Death occurred as the result of exhaustion from diarrhoea. At the autopsy, apart from the changes in the bones, the only important lesion found was a tumour of the *pituitary body* said by the author to be the largest on record. It measured 53 m.m. in length, 39 in breadth, and 20 in thickness. The surface was slightly irregular, internally it was of a greyish white colour, and uniform consistence. Histologically it resembled the normal gland in structure, except that the septa were thinner and less numerous, and there was an excess of chromophile cells in comparison with the "Hauptzellen." There was no appearance of degenerative processes. The author considers the tumour an adenoma rather than a true hypertrophy.

Tamburini reviews the various hypotheses in regard to the pathology of the affection, and concludes that it is in some way due to the changes in the *pituitary body*. He suggests that there may be in the earlier stages a true hypertrophy, with increase of function of the gland, and that the phenomena of hypertrophy may be due to this, while the following cachexia is the result of changes which abolish its function. In confirmation of this view he states that enlargement of the pituitary has been found in all carefully studied cases of ordinary gigantism.

Herpes Zoster Caused by Mental Disturbance.—In the *Lancet* of Oct. 13, 1894, Mr. Antony Roche puts on record the following cases. Looking over his notebook he says that he has been struck with the frequency of the occurrence of herpes zoster after some cause producing mental depression or anger, and he adds that other observers have noted this also. Bateman says—"Like erysipelas, it has been ascribed by some authors to paroxysms of anger." Schwartz saw three cases which followed violent fits of passion. Mr. Roche's cases are the following:—1. A woman suddenly received news that her husband had been ordered to India; the next morning the herpes was noticed on her left side. 2. An old man learned that a firm in which he was interested failed; that evening the herpetic eruption appeared on his left side. 3. A woman was much distressed at the sudden illness of her

son; on the following morning the herpes had appeared. 4. A child, six years of age, of remarkably equable temperament, was disobedient and sent to bed; she cried very much, and the next morning the herpes was noticed on her left side. 5. A woman had a son who was shortly to be married; she complained of pain in her left side and a rash, which was that of herpes; she herself ascribed the rash to the grief at the parting from her son. It is a question how far it would be right to say *post hoc ergo propter hoc* in all these cases, but it would be scarcely unreasonable to do so under the circumstances of their occurrence. There are many other examples of mental disturbance producing sudden trophic changes.

IV — NEURO-THERAPEUTICS.

Thyroid Feeding in Insanity.—Dr. L. C. Bruce, *Journ. Ment. Science*, Jan., 1895, sums up the conclusions of a clinical paper on this subject as follows:—

1. By the internal administration of thyroid gland substance a true febrile process can be induced, and the resulting reaction is beneficial to the patient.
2. The amount of the drug necessary to induce physiological action varies in different individuals, but it is seldom necessary to give a larger dose than sixty grains daily.
3. Excessive and prolonged administration of thyroid extract produces gastric irritation.
4. The use of thyroid extract in the treatment of the insane is accompanied by a certain amount of danger from induced heart weakness. This danger can be minimised and almost discounted by confining to the bed during treatment and for some days afterwards.
5. The administration of thyroid is contra-indicated in cases of mania where the excitement is acute, the loss of body weight rapid, and where there is danger of exhaustion from mal-assimilation of food.
6. Thyroid treatment appears to be specially useful in the insanity of the adolescent, climacteric, and puerperal periods.
7. Its exhibition is especially useful in cases where recovery is protracted.
8. In cases of long-standing, where there is a tendency to

drift into dementia, a course of thyroid treatment sometimes gives the necessary fillip which leads to ultimate recovery.

9. Patients under this treatment should be kept in as equable a temperature as possible.

Sporadic Cretinism Treated with the Extract of the Thyroid Gland.—F. Vermehren (Hospitals Tidende, No. 5, 1893), reports the case of a woman, aged twenty-nine, who had exhibited symptoms of myxoedema from her fifth year, and who improved remarkably after having taken 4.25 grammes in doses of 0.10 to 0.30 grammes of the extract of the thyroid gland of the calf, prepared by mincing the gland with glycerine in the proportion of one to two, and afterwards precipitating the filtered juice by means of alcohol, and drying the precipitate, a grey-brown powder being formed.

Arnold Larson (*Ibid.* No. 41, 1893) reports favourable results in a woman aged fifty-two, who consumed half a gland daily or every second day.

Dr. Telford Smith, in a paper read before the British Medical Association at its meeting in August last, and published in the *Journal of Mental Science*, records four cases of sporadic cretinism treated by him with thyroid extract in the Royal Albert Asylum, Lancaster. Three of the cases were girls and the fourth a boy. The cretinism developed in early childhood, and was not congenital, coming under the head of the third class in Victor Horsley's classification. Each of the four cases was fairly typical though none were extreme, and the results of treatment by thyroid extract have been very similar in all, though not equally marked. Each of the patients has been under treatment for different periods, and were, when the record was drawn up, taking one five-grain tabloid (Burroughs and Wellcome) of thyroid extract daily at dinner time. The improvement was well marked in each.

The chief effects of the treatment may be summed up as follows: Almost after the first dose, the temperature, which had been subnormal, averaging about 95°-96°, began to rise, gradually approaching the normal as treatment continued. After about two or three weeks the skin began to desquamate, chiefly on the hands, feet, and face, and to assume a more normal tint and feel; it lost its dry rough waxy appearance,

and perspiration became perceptible. The myxoedematous condition of the subcutaneous tissue began to subside, and the outline of the features became more defined and sharp. The abdomen became less protuberant, the hands and feet less thick and spade-like, and there was a general loss of weight, which, if the dose of thyroid was excessive, verged on a state of emaciation, the ribs becoming visible, and the general nutrition evidently impaired. If, however, the dose was kept at a minimum the general muscular nutrition seemed to improve, and the previous loss of weight to be again made up by healthy tissue. A comparatively rapid increase in height commenced, and the previously-delayed second dentition began to appear. The cutaneous sensibility became more near the normal and the marked constipation gave place to a more healthy regularity. In the two cases where an umbilical hernia was present it became almost imperceptible. After about two or three weeks' treatment a gradual change became noticeable in their temperament and manner; the phlegmatic state gave place to a spontaneous activity, their expression became more lively and intelligent, they became playful and even mischievous, and were constantly in motion, and the sulkiness of temper and disinclination to be amused passed off.

In the course of the treatment Dr. Telford Smith had occasion to suspend the administration of the thyroid for several months. During this time it was found that the patients slowly and gradually reverted to their former condition of mind and body, but this lapse was much more gradual than their former improvement had been. The deterioration occupied more than thrice the length of time which was needed for the improvement.

The two conditions—the temperature at night, together with the state of general nutrition—afford a careful guide as to when a sufficient dose of thyroid is being administered. If the temperature can be kept at about 97.5° to 98° F., and at the same time no emaciation is set up, the physiologically useful dose has been gauged. But if the flesh is steadily lost, and any degree of emaciation is set up, the dose should be diminished, even if the temperature should still remain considerably below normal.

In commencing treatment it is well to begin with a small dose—say 3 grains daily—and to increase it gradually to 5 or more grains according to the effect produced. If a large initial dose is given symptoms of great depression may show themselves—vomiting, headache, cold sweats, fall of temperature followed by a rise to 103° F. or higher, and signs of heart failure.

Judging from the different degrees of improvement in these cases, and in others that have been published, it would appear that the conclusion that “in cases of equal degree the younger we can commence treatment the greater will be the improvement” is borne out.

And one is led to the speculation—adds Dr. Telford Smith—whether, if we could detect a case of sporadic cretinism or cretinoid imbecility in its very early stage, when the child was in its infancy and before its mental and physical constitution had become impressed with the, I fear, not entirely eradicable stamp of the disease; whether in its early stage, if treatment were commenced, and the physiological defect supplied by thyroid administration, the child might not grow up in an almost normal condition of mind and body. This early detection and treatment of the disease rests largely with the family doctor, as the parents are not so likely to notice or acknowledge the gradually-increasing mental deficiency of their child, and the cretinoid condition is probably well established before the case is brought for special care. This form of imbecility certainly appears to be the one which offers the most hope of improvement from early and continuous medical treatment, apart from special training.

Nervous Transfusion in Insanity.—C. Rossi (*Revista Sperimentale*, XIX., December, 1893) reports experiments with transfusion of nervous extract, according to the methods of d'Arsonval and Constantin Paul, in ten patients in the asylum at Reggio. These patients were all of the curable class, and in no case was there recovery, and in only one any permanent improvement under treatment. He concludes with the opinion that without absolutely denying all virtue to nervous extract, the active principle of which cannot be named with certainty, though held by many to be the phosphates, he is convinced that the greatest effects from its use

are to be looked for in those cases where a psychic element comes into play, and that their action is mainly through mental suggestions. This is the opinion that has been vigorously sustained by Massalongo—viz., that we have in this method, and all that has been said and written in regard to it, “a new chapter in the therapeutics of suggestion” (*Am. Journ of Insanity*).

Strophanthus in Dipsomania.—A Russian physician, Dr. Skvortzaw, while treating a patient in an attack of dipsomania, administered tincture of strophanthus, in doses of seven drops three times a day, in order to relieve the action of the heart, and to his surprise found that with the first dose the patient was taken with nausea and disgust with alcohol, the use of which he stopped at once. In two other cases he had subsequently to treat he adopted the same medication with the same result: the attack of dipsomania was abated at once. In all three patients the symptoms were the same: the drug first caused nausea, followed in a short time by free perspiration—phenomena not usually observed in non-alcoholic cases. In none of the three were there any mental symptoms following the sudden stoppage of the stimulants.

The Hypnotic Effects of Chloralose.—Hascovec (*Revue Neurologique*, Oct. 30, 1894) experimented with this substance during five months on eighty-two patients suffering from various forms of insanity, as well as on healthy persons. The patient's condition in each case was carefully observed before and during sleep and on the following day. The drug was administered in doses of from 0.1 to 1 gramm. The author found it preferable to give it in solution, but made with boiling water. In all cases of excited patients, a sedative effect was noticed before they fell asleep, coming on in from fifteen to twenty minutes after taking the drug. The time required for the hypnotic effect was very variable; unpleasant sensations were seldom complained of, and no undesirable effects on pulse, respiration, digestion, and exertion were observed. The appetite in many cases was improved. After administration for several weeks, it was often noticed, in mania, that smaller doses were sufficient for the same effect. This was not observed in general paresis and melan-

cholia. The principal unpleasant effect noticed was convulsions occurring at variable times during sleep or on awaking. They may be either tonic or clonic, and affect any group of muscles, including the diaphragm. Defæcation and micturition may occur during the convulsions. They may occur after a single large dose (0.8 to 1 gramme), or after the administration of small doses (0.4 to 0.6 grammes) for several weeks. They occur pretty regularly under these conditions in the aged and general paralytics—rarely in young maniacs. Patients who suffered from them during sleep complained of no discomfort, and said they had slept well. The course of the disease was not affected by the drug. The most satisfactory effects were obtained in young maniacs, epileptics, and alcoholics. The commencing dose should always be small, and it should not be given in doses exceeding 1 gramme.—(*Am. Journ. of Insanity.*)

TREATMENT OF ALCOHOLISM.

DR. C. C. CARTER recommends (*Medical News*, Philadelphia, LXVI., 10) a very small dose of atropin (less than $\frac{1}{100}$ gr.), to be given hypodermically three or four times a day. It not only braces up the nerves, but gives a positive distaste for alcoholic liquors. *Per contra*, Dr. Carter points out that if patients are getting atropin, the administration of alcohol will probably cause foul tongue and disordered stomach with nausea.

TETANUS NEONATORUM.

DR. G. A. TURNER, M.D., gives (*Glasgow Medical Journal*, March, 1895) an interesting account of how the “scourge of St. Kilda” has been relieved. Until quite lately the deaths in St. Kilda (Hebrides) from tetanus neonatorum were so numerous that in 1871, out of a population of 71 there was only one child, and at the time of observation, he was dying. The introduction of a trained nurse, a supply of clean clothes for the children (formerly death was looked upon as so probable that the mothers never provided clothes until the first ten days or so were safely passed), and antiseptic dressing of the stump of the funis, have made a great change, and whenever the islanders have allowed the new “new-fangled” ideas in, the children have escaped. Dr. Turner recommends as a dusting powder for the stump, loretin diluted with emol-keleet or magnesia.

PART IV. MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

BRITISH ORTHOPÆDIC SOCIETY.

THE First Provincial Meeting of this Society took place at Liverpool on May 24th.

After lunching together at the Adelphi Hotel, the members visited the new Royal Infirmary, the Children's Infirmary, and the Southern Hospital, at the invitation of the several staffs; they were then entertained at dinner by Mr. Robert Jones, after which they adjourned to the Medical Institution, where the ordinary meeting was held.

A large number of living cases were exhibited, representing torti-collis, talipes treated by tarsectomy, wrenching, tenotomy, &c., also numerous cases of knee, hip, and other joint diseases. Several casts and stereoscopic slides were on view, the latter, shown by Messrs. Robert Jones and Thelwall Thomas, being most instructive as showing the advantage of stereoscopic photography in the demonstration of orthopaedic measures.

Mr. ROBERT JONES was voted to the chair. Several candidates were balloted for and elected.

Mr. TUBBY (London) read notes of a case of talipes equino-varus, drawing attention to the rotation inwards of the lower end of the tibia and fibula which complicated these cases. He had performed osteotomy of the lower end of the tibia, the limb being afterwards put up in plaster with a satisfactory result.

Mr. ROBERT JONES agreed with Mr. Tubby that the rotation was due to an alteration in the shape of the tibia and fibula, and he had for years successfully treated it by osteoclasm above the ankle joint, and in this way, by inversion, at once corrected the deformity. A comparison of the position of the patella with the great toe was evidence that the deformity was below the knee.

Mr. MURRAY (Liverpool) considered that the fault lay not in the tibia but above the knee.

Mr. LUKE FREER (Birmingham) held that the inversion was general, the knee and hip being equally involved, and secondary in origin to the foot inversion ; he had always met the difficulty by passive manipulations and occasionally instrumental aid, by which the knee and hip were rotated outwards, as it were, simultaneously with the daily after-treatment of the talipes itself.

Mr. LUKE FREER showed photographs of a case of extreme rachitic genua valga ; the girl had worn instruments for four years with little benefit, and when eight years of age he had performed a double MacEwen with the best results, continuing retentive apparatus, however, for two years after to prevent relapse. A week ago she had turned up again after a lapse of eight years, with most pronounced *genua varo*, evidently due to rachitis adolescentium. He emphasized the necessity of mechanical control after osteotomy and the fallacy of very early operation.

Mr. MURRAY thought the case would be best treated by another osteotomy.

Mr. TUBBY thought that the consideration of rickets of adolescence would form a good subject for discussion at an early meeting of the Society.

Discussion on the Treatment of Intractable Talipes Equino-varus.

Mr. ROBERT JONES opened the discussion. He maintained that it was always an avoidable condition, and that the relapses so often alluded to were generally due to carelessness on the part of the patient's friends, and sometimes on the part of the practitioners, who did not recognise their causes ; these were—(a) insufficient correction of deformity, (b) superincumbent body weight on outer side of tarsus, (c) slack and lengthened state of muscles opposed to the deformity. The foot is not cured until the act of walking becomes a beneficial factor in the correction of the deformity. It was impossible to lay too much stress upon the influence in the maintenance of deformity, or its recurrence, exercised by the over-stretched muscles on the convex side of the deformity. After discussing the anatomy of inveterate club-foot, Mr. Jones traversed Phelps' statement that the bony deformity in intractable cases did not by any means keep pace with the deformity of soft structures. He (Mr. Jones) maintained that it was impossible for the foot of a growing child to remain twisted without corresponding bone changes, and he drew attention to the osseous deformity in lateral curvature and in knock-knee.

In discussing the methods of treatment, including that of manual correction, subcutaneous division of deep structures and tendons,

forcible wrenching, tarsoclasis, open incision, linear osteotomy, removal of astragalus or cuboid, tarsectomy and Piragoff's operation, he found it difficult to criticise all the methods; the goal might be reached very successfully by different routes. That evening Mr. Murray had shown what could be done in suitable cases by well-performed tarsectomy. After describing Phelps' operation, Mr. Jones argued that it had more effect on the varus deformity than on the equinus, and the cases he had seen after the operation seemed rather deficient in the power of putting the heel to the ground. Mr. Jones had performed Lund's operation on six cases, and wedge-shaped tarsectomy thirteen times; but although his results were fairly satisfactory he had discarded the operative treatment for that of forcible wrenching. He felt certain that all cases of club-foot could be successfully treated by Thomas' wrench, and that the failures which had been reported were due to the fact that surgeons often did not learn its method of application.

Mr. Jones then described in detail the mode of twisting by means of that instrument. After each wrenching the foot became quite capable of being moulded into any position. In the after-treatment he preferred the application of a cheap iron shoe to the plaster appliances now commonly in use. The rotation inwards of the leg he corrected last of all by osteoclasm. This internal rotation could always be avoided if one began treatment early by twisting, in their long axes, the tibia and fibula outwards. The cases he had shown that evening, all of them of a very extreme character, were sufficient proof of the efficacy of this method of treatment—a method which, while leaving intact, and training to a proper shape, the tarsal bones, left a pliable and useful foot as the result. There was very little pain attached to the method, and there was absolutely no risk involved. This could not be said of the cutting operations with the inevitable percentage of mortality. Surgeons were too accustomed to be shown only the successful cases of tarsectomy; but in private and hospital practice he had frequently come across some of the dire disasters.

Mr. TUBBY thought that in the normal state the action of the extensor and flexor muscles was not alternate and distinct, but that the muscles acted in concert, there was a wide field for observers for investigating the conditions of the equilibrium of muscles; he never found tarsectomy necessary, but had seen some very bad results from it, cases were sent out too early and relapses occurred not seen by the surgeon; he considered the wrench a very satisfactory instrument in intractable cases, the ligaments in youth being elastic; he was opposed to Phelps' operation—excessive division

of vessels favour gangrene of the foot—the operation appeared very pretty on the table and very ugly afterwards.

Mr. MURRAY said that in the treatment of congenital talipes equino-varus, all were agreed that the equinus part of the deformity should be dealt with by division of the tendo-Achillis, but all were not agreed as to the treatment of the varus. He stated his objections to Phelps' operation and also to wrenching. The wrenching was painful and had to be often repeated, an important matter with poor patients from a distance. Of the several operations practised, he personally preferred the removal of a wedge-shaped piece from the outer side of the foot, irrespective of bones or joints, and was well satisfied with the results he had obtained. He had performed the operation 42 times in 34 patients. The dangers from the operation were practically nil, and much time and expense were saved, as the patients walked well without instrumental support in less than three months.

Mr. LUKE FREER was of opinion that the very few cases of intractable club-foot with which surgeons engaged in orthopaedic practice had to deal were, as the Chairman had observed, a reflection on the patient's friends or more often on the practitioner. Severe relapsed cases treated by tenotomy and daily manipulative after-treatment would usually be well with pliable feet under three months, and he showed several photographs of cases so treated; he was in favour of the wrench rather than tarsectomy in cases where the hand was not sufficient; he agreed with the use of simple retentive apparatus easily removable for manipulation. Of all the cases of tarsectomy he had seen he could not call any one really satisfactory, the best were "stumpy."

Mr. NEWBOLT (Liverpool) said that osteoclasis should be done through the tibia and fibula, not through the femur.

Mr. ROBERT JONES, in reply, referred to the length of time in treatment, which was slight after the first wrenching; no relapse occurred if the child was not allowed to walk before the weight was borne on the inner side of the tarsus instead of the outer. The chief advantage of his method was safety. Private patients would invariably prefer a non-cutting operation. There would be very few intractable cases of club-foot if medical men would learn how to deal with them sufficiently early.

The meeting closed with a hearty vote of thanks to the Chairman for the trouble he had taken in collecting such a large number of cases for demonstration, and for the manner in which he had carried out the arrangements for such a successful and interesting meeting.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—WILLIAM THOMSON, F.R.C.S.I.

SECTION OF SURGERY.

President—Sir W. THORNLEY STOKER, F.R.C.S., President Royal College of Surgeons.

Sectional Secretary—KENDAL FRANKS, F.R.C.S.

Friday, February 15, 1895.

The PRESIDENT in the Chair.

Internal Strangulation.

Mr. WILLIAM THOMSON read a paper on internal strangulation. He recorded three cases upon which he had operated, and in all which there was a fatal result. In one he found a Meckel's diverticulum, which was divided near its origin and removed. It was subsequently found that a very tight stricture of the ileum had been caused by long-existing pressure, so that obstruction still remained. In the second, the patient was moribund, and an artificial anus was made, the ileum being opened. A tight band, very short, springing from caseating glands, was found. In the third case, the band was also very short, and was attached to the right angle of the body of the uterus. He spoke of the difficulty of diagnosis, but placed reliance upon sudden acute pain, early collapse, and vomiting. The important point in treatment was speed in operating. He further discussed the method of search for the constriction.

The PRESIDENT thought some of the questions raised by Mr. Thomson were of particular interest. In hospital cases he thought the answer to the question of why operations of this class were so fatal, was that poor people came to hospital after delay which would not be likely to occur among the better classes. With regard to shock, the only cases of rapid death in inguinal hernia were in young people. The tender young peritoneum is more susceptible of injury than an indurated peritoneum in an old person, and with an old hernia. He thought the quotation from Mr. Greig Smith savoured too much of book surgery. Usually, in these cases, there

is far less risk to the patient by making a free incision, and allowing the distended bowels to escape on to the surface of the abdomen, than by making a small incision, introducing two fingers, and exploring the intestines, when they crackle and bleed when the least force is applied to them.

MR. BALL said he would confine his remarks to the difference between the operation for strangulated hernia and for internal strangulation. As regards fatality, a great deal depended on the amount of distension of the bowel. In internal strangulation there was very extensive meteorism if it has lasted for any time. The fatal results were due a good deal to the great difficulty in returning the intestines. In strangulated hernia, on the other hand, the cases are operated on before the meteorism is so extensive. He thought Mr. Greig Smith's idea of not trying at first to find out where the obstruction was, was a very good one. After making a small incision in the abdominal wall, the intestines were punctured and the flatus allowed to escape. The immediate danger was over and the operation could be afterwards proceeded with, with more chance of success. He had had a case which showed this—a man with extreme meteorism, vomiting and collapse. To Mr. Ball it appeared absolutely certain that if an extensive search was made the man would die within 12 hours. A small incision, 1 to 1½ inches long, was made *above* the umbilicus. One finger was introduced, but the intestine was so distended that it could not be pinched up. Trying to grasp it with a forceps tore it and the gas escaped, partly into the peritoneum, partly externally. This reduced the tension. A little bit of the intestine, which was the transverse colon, including the part punctured, was sutured to the abdominal wall, and a drainage tube inserted. Gas in great quantities came through, and, subsequently, thin faeces. Next day all the prominent symptoms were relieved. The tube was kept in for some days. The relief of the tension allowed the obstruction to be relieved, and the bowels moved after a few days. The fistula was closed, and the patient got well.

MR. LENTAIGNE thought that Mr. Ball's case was not analogous to Mr. Thomson's; it was obstruction to the large intestine, and not nearly so dangerous. He agreed with what Mr. Thomson had said. He had seen several cases, more or less similar, in some of which the intestines were punctured and the flatus let out, and still a bad result followed; except in two, which were not quite of the same kind as Mr. Thomson's, and they were both operated on at the very commencement. One reason why the cases of strangulated hernia did so much better was because they were brought

at once to the surgeon, while those of internal strangulation were usually kept under treatment by the physician for too long a period before being handed over to the surgeon.

DR. PARSONS thought that the reason cases of strangulated hernia did so much better than those of internal strangulation was because they were diagnosed at once. The diagnosis of the latter is very difficult. When house surgeon at Sir P. Dun's Hospital he saw a case of a boy, sixteen years old. On Saturday he was perfectly well till 12 o'clock, when he was seized with sudden pain. He was ordered castor oil and poultices. The following evening he came to hospital with a good deal of pain all over the abdomen. No distension or diminution of hepatic dullness; no desire to go to stool; no faecal vomiting. He vomited some milk given to him. He thought it was a case of peritonitis. In four or five hours the boy got worse, and he sent for Dr. Smith, who also thought it was peritonitis. The boy died at 9 the following morning; and, *post mortem*, on opening the abdomen a quantity of blood-stained serum escaped, and 18 inches of the small intestine were found intensely strangulated. He thought that in strangulation involving the small intestine, there was not much distension, as they died too rapidly, contrasting with those of the large intestine, where the symptoms are not so acute, and where there is more distension. If, after a patient is suddenly seized with pain in the abdomen, the pulse steadily and rapidly increases, he thought the abdomen should be opened.

MR. CHANCE did not share Mr. Ball's view that distension of the abdomen was a bad sign. The higher the strangulation occurred in the gut the more the shock and the less the distension. Some people thought that bacteria develop highly poisonous substances, which have a large share in the production of the collapse which follows intestinal obstruction, and, therefore, that the intestine should be washed out. He would make a small incision, suture the intestine to the abdominal wall, and wash it out. This could be done in bed, and so could avoid the shock caused by bringing patient to a theatre which there might not have been time to warm.

MR. BENNETT thought that the question of dealing with the distended abdomen was the most important. If the distended intestines are allowed to escape, there will be great difficulty in returning them. In a tympanitic case he would prefer making a small incision, sufficient to admit a couple of fingers, then if he found the obstruction, well and good; but if not, he would make a small incision in the intestines. If they let out the intestines before puncturing them there was very little tendency for the gas to

escape after incision, because the intra-abdominal pressure was gone. As far as his experience went he would avoid allowing the intestines to escape, as the result was fatal in the cases in which he did it.

MR. CROLY said he had met with collapse so often in ordinary strangulated hernia that he thought it one of the commonest causes of death in these cases. In cases of internal strangulation or strangulated hernia if an operation is not done early it should not be done at all. If the puncturing system is so successful why not puncture with a needle without opening the abdomen at all? If puncturing meant waiting he would rather see what was going on inside the abdomen instead of puncturing in the dark. In illustration he would ask, if called to see a man strangling himself with a rope, whether he would first set up artificial respiration or remove the rope?

MR. MYLES said he had the opportunity of assisting Mr. Thomson in one of the cases. He was struck by two features in the cases—one, the smallness of the band causing the obstruction; the other, the comparative absence of tympany. He thought that having once opened the abdomen, and if tense allowed the gas to escape by making a small incision in the gut—a trocar was no use—that a systematic search should be made for the site of the obstruction, and that it should not stop till this had been found. He thought it would be wrong to leave intestine uninspected which might become gangrenous.

MR. NIXON, referring to Mr. Ball's case, said he understood that puncturing the intestine was only a preliminary step, and that when patient had rallied he meant to search for the constriction. The patient got well without this. He, himself, had seen two cases in which definite symptoms of intestinal obstruction were present, but in which the patients declined laparotomy. The symptoms subsided and they got well. He thought the difference between the results of intestinal strangulation and strangulated hernia was due to the difference in the amount of peritoneum involved.

MR. THOMSON, replying, said that Mr. Ball's case had not been of the same kind as his, as the result showed. If the gut had been strangulated the patient would not have had the ordinary passage of faecal matter restored, but an artificial anus would have resulted. In suitable cases he thought it good treatment, and he had adopted it in one of his own cases; but in strangulation a secondary operation would be necessary for relief of it. He wished to impress upon them the distinction between acute obstruction and internal strangulation; the former might recover by medical treatment, the

latter never could. Tympany was not an early symptom; it was not coincident with the pain and collapse. When distended, he thought that if necessary the intestine should be opened, but in his cases there was no great distension. The danger of letting the intestines outside the abdomen and the trouble of getting them back could not be exaggerated. The behaviour of the intestines was entirely different when dealing with a solid tumour of the uterus or ovary; there the intestines were collapsed, and in most cases did not tend to protrude.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—DR. J. A. SCOTT.

Sectional Secretary—J. B. STORY.

Friday, March 8, 1895.

The PRESIDENT in the Chair.

Symmetrical Gangrene of Ears.

DR. H. C. TWEEDY exhibited the heart and lungs of a male patient, aged thirty-five, who had suffered from symmetrical gangrene of the ears. In the heart the left ventricle was hypertrophied, the mitral valve narrowed, thickened, and covered with vegetations. The aortic valves were healthy but the aorta itself was atheromatous. The right ventricle was greatly dilated and the tricuspid valve was surrounded with hard atheromatous nodules. There was an infarct of large size in the upper lobe of the right lung and one of smaller size in the left lung. The left kidney was enlarged and contained numerous cysts. The gangrene of the ears had commenced 19 months ago, in the autumn of 1893, and in opposition to the contention that the case was one of Raynaud's disease, Dr. Tweedy urged—1st. The absence of typical paroxysmal pains. 2nd. The absence of defective circulation in the hands or feet. 3rd. The absence of vesicles, bullæ, or ulceration in the parts affected. 4th. The steady continuity of the morbid process, there having been apparently no successive attacks with intervals between. 5th. The age and sex of the patient. And lastly, that the general condition of the circulation, as the result of the disease in the mitral valve and the atheromatous condition of the vessels, supplied a possible explanation for the morbid change that had taken place in the ears. As there was no history of rheumatism, it

is possible that the condition of the heart and blood-vessels may have been secondary to the morbid process, which was considerably advanced in the kidney.

DR. M'WEENEY asked whether the patient had any pain. He thought it might possibly be a case of Morvan's Panaritium Analgesicum, and would like to know if the brain or spinal cord had been examined.

DR. DALY said that he had been the cause of bringing this case forward. The man was very much worse in cold weather. He had seen his hands wrinkled with cold. He had showed the case to many within the last 18 months, all of whom had diagnosed Raynaud's disease. He was at the Richmond and Adelaide Hospitals, and had no heart murmur then. When the disease commenced it was symmetrical. He suffered intense pain. Never had syphilis. He was 12 years in the army, 4 being in Ceylon. He was a strong, healthy man.

DR. BENNETT stated that the gangrene had commenced in the early autumn when there was not much cold.

DR. WOODS saw the case at the Richmond Hospital a year and a half ago. He had seen three other cases of Raynaud's disease, all of which were men, but this was the most pronounced. He had examined the man's heart and had found a mitral systolic murmur. He believed it was a case of Raynaud's disease, the symptoms of which were aggravated by heart disease. He recommended him to wear ear caps over his ears. As well as he remembered the right ear was worse than the left.

DR. PARSONS wished to know where the man was when it occurred. He thought the *post-mortem* had not done much to clear up the case. He did not understand how the circulation in his ears was so bad as to cause gangrene in spring and summer, for there appeared not to be any dropsey of the extremities, which was one of the first signs of cardiac failure. He wished to know if the urine had been examined for methaemoglobin, which has been found present in cases of Raynaud's disease.

DR. DALY said that the disease commenced in the spring, one year and eight months ago. The patient was living in Dublin at the time. He never suffered from chilblains. When he examined the urine there was no albumen in it. The man worked inside a store and not exposed to the cold.

DR. TWEEDY, replying, said that the *post-mortem* was made under great difficulties, and did not last more than ten minutes. He had been unable to get a bit of the ear. The brain and spinal cord had not been examined. There was no definite pain till the

hard masses of slough formed, and then caused him pain to lie on it. He still thought the cardiac disease sufficient to cause the condition of his ears. It could not have been a frost bite, as the disease commenced in the early autumn. The heart trouble must have been pretty chronic from the *post-mortem* appearances. He had only seen one other case of Raynaud's disease. It was in a child, and the little toes were gangrenous, and in addition there were vesicles and bullæ present. The child had also paroxysmal pain. In this case the hands and feet were frequently very cold. He had not examined the urine for methæmoglobin as the man had only been a short time in hospital and had died suddenly.

Cirrhosis of Liver in a Child.

DR. O'CARROLL showed a cirrhotic liver taken from a child of eight years. The specimen was remarkable by reason of the fact that from the under-surface protruded downwards a large mass consisting of nut-like islands of hepatic tissue surrounded by thick bands of glistening fibrous tissue, and which during life had given rise to the suspicion of a tumour of the liver or in its neighbourhood. No previous history of the patient could be obtained sufficient to settle the question of causation, but the large amount of peri-hepatitis seemed to hint at a syphilitic origin of the disease.

DR. BENNETT remarked that it was a very interesting case from the protrusion of a portion of the liver downwards, making an error in diagnosis likely to occur.

DR. TWEEDY had seen some sections of the liver prepared by DR. O'Sullivan. He was struck by the great number of new bile ducts which were present, though they were not so abundant as in the hypertrophic form.

DR. PARSONS thought it was a very anomalous case, both in its clinical history and *post-mortem* appearance. He would like to know what form of cirrhosis it was. In this case there was jaundice, and there was no ascites and the liver was smaller than usual. In hypertrophic cirrhosis jaundice is present, the liver is larger, and there is no ascites. In atrophic cirrhosis the leading feature is ascites without jaundice. He would think it was syphilitic, because there was part of the liver in which there was nothing else but fibrous tissue. Still the only indication of portal obstruction was that the spleen was enlarged. He thought it must have been a very gradual process, so that the circulation had time to settle itself to the altered condition.

DR. M'KEENEY agreed with DR. Parsons that the diagnosis in this case was very difficult. He had seen only the naked-eye

appearance. The great increase in the number of bile ducts was in favour of hypertrophic cirrhosis. The liver was not much diminished in size, considering the age of the child, and jaundice was also present. The fibrous tissue appeared to him to be loose and not cicatricial in nature, and would probably show round cell infiltration. He thought with Dr. Parsons that syphilis was probably the cause.

DR. BENNETT said that, so far as his experience went, the naked-eye appearance was against its being due to syphilis.

Spindle-cell Sarcoma of Female Urethra.

PROF. M'WEENEY showed an example of this rare condition. The patient, aged thirty-two, had suffered from pain in micturition for some months, and was admitted to the Mater Misericordiae Hospital under the care of Dr. More Madden and Mr. Hayes, who found a soft vascular tumour the size of a pigeon's egg projecting from the urethral orifice. It could be traced along the urethral roof into the bladder. On removal it proved to be a typical spindle-cell sarcoma. Sections were shown and the paucity of recorded instances of this condition pointed out. Ziegler, however, mentions the occurrence of sarcoma in the urethra.

Epithelioma of the Cervix Uteri.

PROF. M'WEENEY also showed this specimen with sections. The tumour, which fungated through the *os externum* of a multipara, aged fifty-five, was evidently derived from the stratified squamous epithelium, but exhibited here and there a curious mimicry of glandular tubules. The centre of some of the columns was hollowed out so regularly as to suggest large glandular spaces lined with several layers of columnar epithelium. The central space was loosely filled with polynuclear leucocytes and large detached epithelial cells. Under the name adeno-carcinoma uteri, Ziegler, and also Delafield and Prudden, figure conditions very similar to that now shown. Was it to be regarded as penetration by columns of leucocytes, and therefore indicative of decay, or was it a mimicry of the arrangement of the closely-adjacent columnar epithelium?

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;

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VITAL STATISTICS

For four Weeks ending Saturday, July 18, 1895.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	June 22.	June 29.	July 6.	July 13.		June 22.	June 29.	July 6.	July 13.
Armagh	42.1	28.0	35.1	28.0	Limerick	21.1	40.7	26.7	15.4
Belfast	26.5	27.7	27.1	30.7	Lisburn	21.3	8.5	0.0	17.0
Cork	13.1	24.2	18.0	27.0	Londonderry	25.1	20.4	22.0	18.8
Drogheda	4.4	30.7	22.0	8.8	Lurgan	18.2	9.1	31.9	0.0
Dublin	19.3	21.3	24.3	19.4	Newry	16.1	24.1	20.1	28.2
Dundalk	20.9	8.4	20.9	4.2	Sligo	15.2	15.2	0.0	0.0
Galway	11.3	41.5	18.9	34.0	Waterford	22.5	32.5	10.0	22.5
Kilkenny	18.9	28.6	18.9	4.7	Wexford	22.6	27.1	18.1	36.1

In the week ending Saturday, June 22, 1895, the mortality in thirty-three large English towns, including London (in which the rate was 15.1), was equal to an average annual death-rate of 16.2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19.4 per 1,000. In Glasgow, as well as in Edinburgh, the rate was also 19.4.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 21.4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2.0 per 1,000, the rates varying from 0.0 in thirteen of the districts to 8.4 in Belfast—the 139 deaths from all causes registered in that district comprising 2 from measles, 1 from scarlatina, 1 from typhus, 3 from whooping-

cough, 1 from simple continued fever, 2 from enteric fever, and 8 from diarrhoea.

In the Dublin Registration District the registered births amounted to 194—101 boys and 93 girls; and the registered deaths to 135—60 males and 75 females.

The deaths, which are 23 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 20.1 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 19.8 per 1,000. During the first twenty-five weeks of the current year the death-rate averaged 32.6, and was 3.0 over the mean rate in the corresponding period of the ten years, 1885–1894.

Eighteen deaths from zymotic diseases were registered, being 2 over the number for the preceding week, but 2 under the average for the 25th week of the last ten years. They comprise 6 from small-pox, 1 from measles, 3 from scarlet fever (scarlatina), 1 from whooping cough, 1 from diphtheria, 1 from enteric fever, 1 from choleraic diarrhoea, and 2 from diarrhoea. The 6 deaths from small-pox were those of 2 unvaccinated children, aged respectively 2 and 4 years, and of 4 adults who had been vaccinated.

The number of cases of small-pox admitted to hospital was 11, being 2 under the admissions in the preceding week and 1 over the number in the week ended June 8: 13 small-pox patients were discharged, 4 died, and 31 remained under treatment on Saturday, being 6 under the number in hospital at the close of the preceding week. This number is exclusive of 17 convalescents from the disease under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

For some weeks past the number of cases of scarlatina admitted to hospital has fluctuated considerably. The number for this week was 7, being 4 under that for the preceding week: 7 patients were discharged, 2 died, and 56 remained under treatment on Saturday, being 2 under the number in hospital on that day week.

Three cases of enteric fever were admitted to hospital, being 1 over the admissions in the preceding week and 3 under the number in the week ended June 8: 23 cases of the disease remained under treatment in hospital on Saturday.

Twenty-seven deaths from diseases of the respiratory system were registered, being 1 over the average for the corresponding week of the last ten years, and 3 over the number for the week ended June 15. The 27 deaths comprise 16 from bronchitis and 9 from pneumonia or inflammation of the lungs.

In the week ending Saturday, June 29, the mortality in thirty-three large English towns, including London (in which the rate was 16.9), was equal to an average annual death-rate of 16.7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19.2 per 1,000. In Glasgow the rate was 20.8, and in Edinburgh it was 17.5.

The average annual death-rate in the sixteen principal town districts of Ireland was 24.6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1.9 per 1,000, the rates varying from 0.0 in eleven of the districts to 8.8 in Belfast—the 145 deaths from all causes registered in that district comprising 2 from measles, 1 from scarlatina, 1 from whooping-cough, 1 from simple continued fever, 5 from enteric fever, and 10 from diarrhoea. Among the 29 deaths in Limerick are 1 from scarlatina and 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to 196—105 boys and 91 girls; and the registered deaths to 150—70 males and 80 females.

The deaths, which are 18 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22.4 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 21.3 per 1,000. During the first twenty-six weeks of the current year the death-rate averaged 32.2, and was 2.8 over the mean rate in the corresponding period of the ten years, 1885-1894.

Only ten deaths from zymotic diseases were registered, being 15 below the average for the corresponding week of the last ten years, and 8 under the number registered in the previous week. The 10 deaths consist of 1 from influenza, 3 from whooping-cough, 1 from enteric fever, and 5 from diarrhoea.

Eighteen cases of small-pox were admitted to hospital, being 7 over the admissions in the preceding week and 5 over the number admitted in the week ended June 15: 5 small-pox patients were discharged and 44 remained under treatment on Saturday, being 13 over the number in hospital at the close of the preceding week. This number is exclusive of 15 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

Nine cases of scarlatina were admitted to hospital, against 7 admissions in the preceding week: 7 patients were discharged and 58 remained under treatment on Saturday, being 2 over the number in hospital on Saturday, June 22.

The hospital admissions for the week included, also, 1 case of typhus and 3 cases of enteric fever: 2 cases of the former and 15 of the latter disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had risen from 24 for the week ended June 15 to 27 for the following week, fell to 16, or 7 below the average for the corresponding week of the last ten years. The 16 deaths comprise 9 from bronchitis and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, July 6, the mortality in thirty-three large English towns, including London (in which the rate was 18.0), was equal to an average annual death-rate of 17.5 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19.4 per 1,000. In Glasgow the rate was 21.3, and in Edinburgh it was 17.1.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 23.5 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3.2 per 1,000, the rates varying from 0.0 in nine of the districts to 9.1 in Lurgan—the 7 deaths from all causes registered in that district comprising 1 from whooping-cough, and 1 from enteric fever. Among the 142 deaths from all causes registered in Belfast are 1 from scarlatina, 1 from typhus, 1 from whooping-cough, and 32 from diarrhoea. The 19 deaths in Limerick comprise 1 from scarlatina and 1 from whooping-cough. The 14 deaths in Londonderry comprise 1 from whooping-cough and 1 from diarrhoea. The Registrar for Castlereagh No. 4 District, Belfast Union, remarks—"Diarrhoea is prevalent in the district, especially among children."

In the Dublin Registration District the registered births amounted 169—86 boys and 83 girls; and the registered deaths to 167—94 males and 73 females.

The deaths, which are 18 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24.9 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 24.3 per 1,000. During the first twenty-seven weeks of the current year the death-rate averaged 31.9, and was 2.8 over the mean rate in the corresponding period of the ten years, 1885-1894.

The number of deaths from zymotic diseases registered was 18, being 8 over the low number for the preceding week, but 5 under

the average for the 27th week of the last ten years. The 18 deaths comprise 2 from scarlet fever (scarlatina), 4 from influenza and its complications, 1 from whooping-cough, 1 from diphtheria, 1 from enteric fever, 1 from diarrhoea and vomiting, 5 from diarrhoea, 1 from dysentery, and 1 from erysipelas.

The number of cases of small-pox admitted to hospital was 11, being 7 under the admissions in the preceding week and equal to the number admitted during the week ended June 22. Twenty small-pox patients were discharged, and 85 remained under treatment on Saturday, being 9 under the number in hospital at the close of the preceding week. This number is exclusive of 12 patients under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

Ten cases of scarlatina were admitted to hospital, being 1 over the admissions in the preceding week: 10 patients were discharged, and 58 remained under treatment on Saturday, being equal to the number in hospital on Saturday, June 29.

The hospital admissions for the week included, also, 1 case of typhus and 3 cases of enteric fever: 1 case of the former and 12 cases of the latter disease remained under treatment in hospital on Saturday.

Thirty-one deaths from diseases of the respiratory system were registered, being 10 in excess of the average for the corresponding week of the last ten years, and 15 over the low number for the previous week. They comprise 16 from bronchitis, 9 from pneumonia or inflammation of the lungs, 2 from croup, and 2 from pleurisy.

In the week ending Saturday, July 13, the mortality in thirty-three large English towns, including London (in which the rate was 21.0), was equal to an average annual death-rate of 19.9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20.3 per 1,000. In Glasgow the rate was 21.4, and in Edinburgh it was 16.5.

The average annual death-rate in the sixteen principal town districts of Ireland was 22.9 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 4.2 per 1,000, the rates varying from 0.0 in nine of the districts to 9.2 in Belfast—the 161 deaths from all causes registered in that district comprising 3 from measles, 2 from scarlatina, 1 from whooping-cough, 1 from simple continued fever, 4 from enteric fever, and 37 from diarrhoea. Among the 12 deaths from all causes registered in Londonderry are

1 from whooping-cough and 2 from diarrhoea. Of the 9 deaths in Waterford 2 were from diarrhoea. The 8 deaths in Wexford comprise 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 218—111 boys and 107 girls; and the registered deaths to 134—63 males and 71 females.

The deaths, which are 15 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 20.0 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 19.4 per 1,000. During the first twenty-eight weeks of the current year the death-rate averaged 31.5, and was 2.6 over the mean rate in the corresponding period of the ten years, 1885-1894.

The number of deaths from zymotic diseases registered was 18, being 4 below the average for the corresponding week of the last ten years, but equal to the number registered in the previous week. The 18 deaths consist of 2 from small-pox, 2 from influenza and its complications, 1 from diphtheria, 3 from enteric fever, 9 from diarrhoea, and 1 from dysentery. The deaths from small-pox are those of an unvaccinated boy 2 years old, and a man aged 28 years, "stated to be vaccinated."

During the week ended June 29, 18 cases of small-pox were admitted to hospital. In the following week the admissions fell to 11, and during this week only 6 cases were admitted: 5 small-pox patients were discharged, 2 died, and 34 remained under treatment on Saturday, being 1 under the number in hospital at the close of the preceding week. This number is exclusive of 12 convalescents in the South Dublin Union Small-pox Hospital, Kilmainham.

The number of cases of scarlatina admitted to hospital was 7, being 3 under the admissions in the preceding week: 8 patients were discharged, and 57 remained under treatment on Saturday, being 1 under the number in hospital on that day week.

The hospital admissions for the week included, also, 5 cases of enteric fever, being 2 over the corresponding number in the preceding week: 14 cases of the disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had risen from 16 in the week ended June 29 to 31 in the following week, were 21, or 3 below the average for the corresponding week of the last ten years. The 21 deaths consist of 14 from bronchitis, 5 from pneumonia or inflammation of the lungs, 1 from croup, and 1 from pleurisy.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of June, 1895.

Mean Height of Barometer, - - - - -	30.084 inches.
Maximal Height of Barometer (on 24th, at 9 a.m.),	30.466 "
Minimal Height of Barometer (on 30th, at 9 p.m.),	29.557 "
Mean Dry-bulb Temperature, - - - - -	58.6°.
Mean Wet-bulb Temperature, - - - - -	54.4°.
Mean Dew-point Temperature, - - - - -	50.7°.
Mean Elastic Force (Tension) of Aqueous Vapour, - - - - -	.374 inch.
Mean Humidity, - - - - -	75.8 per cent.
Highest Temperature in Shade (on 26th), - -	77.6°.
Lowest Temperature in Shade (on 15th), - -	42.3°.
Lowest Temperature on Grass (Radiation) (on 15th), - - - - -	38.8°.
Mean Amount of Cloud, - - - - -	45.4 per cent.
Rainfall (on 12 days), - - - - -	1.872 inches.
Greatest Daily Rainfall (on 30th), - - - - -	.641 inch.
General Directions of Wind, - - - - -	N.W., E., S.W.

Remarks.

This was an exceptionally favourable month. Fair and quiet weather held until the 26th, hot sunshine by day being often succeeded by calm cold nights, especially about the 13th, when severe frosts occurred in the inland districts of both Great Britain and Ireland. From the 26th to the close, violent electrical disturbances took place and rain fell in abundance except in the South-east of England. This break-up of the fine weather and long-continued drought was preceded by a period of great warmth, particularly in Ireland.

In Dublin the arithmetical mean temperature (59.2°) was above the average (57.8°) by 1.4° ; the mean dry bulb readings at 9 a.m. and 9 p.m. were 58.6° . In the thirty years ending with 1894, June was coldest in 1882 (M. T. = 55.8°); and in 1879 ("the cold year") (M. T. = 55.9°). It was warmest in 1887 (M. T. = 62.3°); in 1865 (M. T. = 61.0°); and in 1868 (the "warm year") (M. T. = 60.5°). In 1888 the M. T. was 56.2° ; in 1889, 59.5° ; in 1890, 58.1° ; in 1891, 59.0° ; in 1892, 56.7° ; in 1893, 59.9° ; and in 1894, 57.0° .

The mean height of the barometer was 30.084 inches, or 0.167

inch above the corrected average value for June—namely, 29.917 inches. The mercury rose to 30.466 inches at 9 a.m. of the 24th, and fell to 29.557 inches at 9 p.m. of the 30th. The observed range of atmospheric pressure was, therefore, 0.909 inch—that is, a little more than nine-tenths of an inch.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 58.6, or 4.8° above the value for May, 1895. Using the formula, $\text{Mean Temp.} = \text{Min.} + (\text{max.} - \text{min.} \times 0.465)$, the value was also 58.6°, or 1.4° above the average mean temperature for June, calculated in the same way, in the twenty-five years, 1865-89, inclusive (57.2°). The arithmetical mean of the maximal and minimal readings was 59.2°, compared with a twenty-five years' average of 57.8°. On the 26th the thermometer in the screen rose to 77.6°—wind, E.S.E.; on the 15th the temperature fell to 42.3°—wind, E. The minimum on the grass was 38.8°, also on the 15th.

The rainfall amounted to 1.872 inches, distributed over 12 days. The average rainfall for June in the twenty-five years, 1865-89, inclusive, was 1.817 inches, and the average number of rainy days was 13.8. The rainfall was, therefore, slightly above, while the rainy days were more decidedly below the average. In 1878 the rainfall in June was very large—5.058 inches on 19 days; in 1879, also, 4.046 inches fell on 24 days. On the other hand, in 1889, only .100 inch was measured on 6 days; in 1887, the rainfall was only .252 inch, distributed over only 5 days; in 1874, only .405 inch was measured on 9 days; and in 1868, only .677 inch fell on but 6 days. In 1888 the rainfall was as much as 3.045 inches, distributed over as many as 18 days. In 1890 it was 1.930 inches on 18 days; in 1891, 2.753 inches on 14 days; in 1892, 1.671 inches on 17 days; in 1893, 1.716 inches on 12 days; and in 1894, 1.652 inches on 19 days.

High winds were noted on only 4 days, and the force of a gale was never attained. Temperature reached or exceeded 70° in the screen on 7 days; compared with 17 days in 1887, only 1 day in 1888, 10 days in 1889, only 2 days in 1890, 6 days in 1891, 4 days in 1892, 5 days in 1893, and only 2 days in 1894. Hail fell on the 12th and 29th. Solar halos were observed on the 3rd, 8th, 11th, 13th, and 23rd. Thunderstorms occurred on the 26th, 29th, and 30th.

Saturday, the 1st, was a fair bright day, with a pleasant and fresh breeze from S. to S.E. and E.S.E.

Splendid, summerlike weather prevailed during the greater part of the week ended Saturday, the 8th. After Sunday the distribu-

tion of atmospheric pressure over the British Isles was anti-cyclonic—the highest pressure of all being found over Ireland on and after Tuesday. At 8 a.m. of Sunday a depression, in which the barometer was down to 29.69 inches, was found near the Scilly Islands; another, with readings of about 29.80 inches, lay off the Lincolnshire coast. The latter disturbance had already caused a heavy fall of rain at Spurn Head ('58 inch) and York 1.24 inches) and a thunderstorm at the latter place. Thunder and lightning had also occurred at the North Foreland and Cambridge. In Dublin the day was fine and warm, but cloudy at times. The depression soon dispersed and a general increase of pressure took place. Monday was fair and bright until evening, when clouds came up from N. and rain fell heavily in Dublin for a time (1.03 inch). The downpour was local and resembled an effete thunder-storm. Light evaporation showers fell on Tuesday, but the rainfall measurement was scarcely perceptible. A spell of brilliant, calm, warm weather followed, lasting until Saturday, when clouds increased and the sky began to wear a less settled appearance as depressions appeared in the far North. At 1.30 p.m. on this day a well-defined solar halo appeared. During the fair spell, light easterly sea breezes came in daily along the east coast, tempering the burning rays of an unclouded summer sun. On Thursday evening Venus and Mars were seen in conjunction to W.N.W., and Jupiter and Mercury also in conjunction to N.W. In Dublin the mean height of the barometer was 30.268 inches, pressure ranging between 29.919 inches at 9 a.m. of Sunday (wind, N.E.) and 30.430 inches at 9 a.m. of Thursday (wind, E.N.E.). The corrected mean temperature was 58.9. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 59.9°. On Wednesday the screened thermometers fell to 47.9°: on Friday they rose to 70.7°. The rainfall was 1.07 inch, 1.03 inch being measured on Monday—the only "rainy day." The prevailing winds were N.N.W. and E.N.E.

Although changeable at times, the weather of the week ended Saturday, the 15th, was generally seasonable and propitious. As a rule, the barometer stood highest over Ireland while it was relatively low both over Northern Europe and in the Mediterranean Basin. At no time, however, were gradients steep and so the force of the wind was never great. With the spreading southwards of north-westerly winds early in the week came a remarkable reduction of temperature, and the thermometer readings by night in Scotland and Ireland were unusually low after Monday—at Wick, for example, the minima in the screen were 53°, 43°, 42°, 37°, 39°,

35°, and 34°; even in the city of Dublin, they were as low as 51.8°, 51.9°, 49.0°, 42.5°, 42.9°, 48.9°, and 42.3°. At Edenfel (Omagh) and Markree (Co. Sligo) the sheltered thermometer fell to 30° on Thursday, the 13th. The grass minimum was 24° at Edenfel, on the same night. On Friday night the thermometer fell to 32° in the screen and to 26° on the grass at Loughborough. In Dublin, heavy showers fell on Tuesday and Wednesday, largely in consequence of a rapid evaporation and the coldness of the air leading to subsequent condensation. Hail fell on Wednesday. On Thursday and Friday a shallow depression passed eastwards along the south coast of Ireland and across the south of England. It produced an abundant rainfall in Munster and along the English coast. At this time beautiful, bright weather with cool, easterly sea breezes prevailed in the neighbourhood of Dublin. The mean atmospheric pressure in this city was 30.123 inches, the barometer being observed to range from 29.992 inches at 9 a.m. of Tuesday (wind, W.N.W.) to 30.237 inches at 9 a.m. of Saturday (wind, E.). The corrected mean temperature was 54.4°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 55.3°. On Monday the screened thermometers rose to 66.8°, on Saturday they fell to 42.3°. The rainfall was .323 inch on two days, .192 inch being registered on Wednesday. The prevalent winds were first N.W., afterwards E.

Although far from settled, the weather of the week ended Saturday, the 22nd, was generally favourable, and at the end of the week a rapid and considerable rise of temperature took place. The first two days were fair—clear, cold nights were succeeded by brilliant sunshine by day, the heat of the sun being tempered meanwhile by sea breezes along the Irish coasts. During this time the barometer was gradually falling and on Tuesday morning a large area of comparatively low pressure lay over the British Isles, the North Sea, and the Bay of Biscay. Within this area at least three minima existed, and the weather therefore fell into a rainy, thundery state. In Dublin a grateful fall of rain took place between 7 and 10 a.m. on Tuesday, but the measurement was only .040 inch. The changes in atmospheric pressure were slight and irregular until Wednesday evening, when the depressions began to fill up or disperse. On Thursday morning areas of high pressure were found over Scandinavia and the Peninsula, while the barometer was relatively low in the intervening regions. A good deal of electrical disturbance was the result. Subsequently the Spanish anticyclone spread northwards and the weather became very fine and warm, as its south-westerly winds passed over Ireland. In Dublin the mean height of the barometer was 30.011 inches, pressure ranging

between 29.694 inches at 4.30 p.m. of Tuesday (wind, W.) and 30.315 inches at 9 p.m. of Saturday (wind, W.S.W.). The corrected mean temperature was 56.3°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 56.4°. On Monday the screened thermometers fell to 44.0°; on Saturday they rose to 75.1°. The rainfall was .114 inch on four days, .052 inch being measured on Thursday as the result of heavy electrical showers ushered in by a dangerous S.W. squall at 6.30 p.m. The prevailing winds were N.W. and S.W.

At first dry and hot in the week ending Saturday, the 29th, the weather broke on Wednesday, with severe thunderstorms in most parts of the British Islands, and remained unsettled, showery and thundery to the close of the week. In the period from Sunday to Tuesday inclusive an atmospheric depression was passing in an east-south-easterly direction across Scandinavia and the Baltic to Poland. This system caused considerable rains, northerly gales, and a great fall in temperature all over Northern Europe, but fine weather was general throughout the British Isles, although it was cool in Scotland and the North of England. In Ireland and the South of England summer heat prevailed, the sheltered thermometer rising to 82° in London on Sunday and at Parsonstown on Monday. On Tuesday the barometer stood above 30.4 inches in a ridge extending southwards from the N.E. of Scotland to the neighbourhood of Paris. Off the West of Ireland pressure was slightly lower (30.3 inches) and was giving way. At night the weather became thundery in the last named district, and on Wednesday violent thunderstorms occurred in Ireland, in central and northern England, and in Scotland. In the S.E. of England the weather remained for the most part fine and dry until Friday, when showers fell locally. In Dublin the mean height of the barometer was 30.056 inches, pressure decreasing from 30.466 inches at 9 a.m. of Monday (wind, E.) to 29.560 inches at 9 p.m. of Saturday (wind, W.). The corrected mean temperature was 65.1°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 63.0°. On five days the maximal temperature exceeded 70° in the screen, the highest reading of all being 77.6° on Wednesday. The minimum was 54.0° on Saturday. The rainfall was .687 inch on four days, .262 inch being registered on Wednesday. Hail fell on Saturday, when thunder also was heard. The prevalent winds were at first E., then S.W.

On Sunday, the 30th, a succession of thunderstorms passed over Dublin from S. to N. and rain fell in torrents at frequent intervals, the total measurement being .641 inch.

The rainfall in Dublin during the six months ending June 30th

amounted to 12.282 inches on 80 days, compared with 14.361 inches on 109 days in 1894, 9.624 inches on 78 days in 1893, 11.770 inches on 97 days in 1892, 8.748 inches on 77 days in 1891, 13.413 inches on 94 days in 1890, 10.576 inches on 97 days in 1889, 12.113 inches on 87 days in 1888, 6.741 inches on 67 days in 1887, and a twenty-five years' average of 12.313 inches on 95.4 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in June, 1895, was 1.425 inches, distributed over 9 days. Of this quantity .365 inch fell on the 26th, and .355 on the 27th. The total fall since January 1 has been 14.270 inches on 67 days, compared with 17.381 inches on 96 days in the first six months of 1894, and 11.776 inches on 75 days during the corresponding period in 1893.

The rainfall at Clonkeevin, Killiney, Co. Dublin, amounted to 1.94 inches on 12 days. The greatest fall in 24 hours was .52 inch on the 26th. The average rainfall for June in 10 years was 1.460 inches on 11.6 days. Since January 1, 1895, 13.34 inches of rain have fallen at this station on 81 days.

CONGRÈS INTERNATIONAL DE GYNECOLOGIE ET D'OBSTÉTRIQUE.

THE Second Session of this Congress will take place at Geneva in the first fortnight of September, 1896. It is in error that some journals have announced this Session for 1895. The official questions for which speakers of different nationalities have been chosen are the following:—*Obstetrics*.—The relative frequency and the most frequently observed varieties of narrowing of the pelvis in different countries. Treatment of eclampsia. *Gynecology*.—Operative treatment of retroflexions of the uterus. Pelvic suppurations and their treatment. Methods of suturing the abdominal wall, the best way of avoiding abscess, escape of intestines from abdominal wounds, hernia, &c. During the sitting of the Congress an exhibition of apparatus and of instruments pertaining to obstetrics and gynecology will be held. Communications should be addressed to Professor Vulliet, Geneva, on behalf of the Organising Committee.

CREMATION IN ITALY.

THE number of crematories in Italy in 1894 was 23, and there were 2,509 bodies cremated. Although Italy was one of the first countries to agitate the question of cremation as a substitute for earth burial, the reform has not made very rapid progress, owing to the hostility of the Church.—*Medical Record*.

PERISCOPE.

CITY OF DUBLIN HOSPITAL—SESSIONAL EXAMINATIONS.

THE gold medal, presented by Mr. Wheeler for the best answering in Medicine, has been won by Mr. William Henry Croly, Greenfield, Rathfarnham.

BOYCOTTING IN ENGLAND.

We take the following “editorial note” from an English periodical, *Clinical Sketches*, a new and promising monthly published by Messrs. Smith, Elder, & Co. We make no comment:—“In one of the weekly medical journals I recently noticed a statement that Lord Iveagh had given £1,000 to a London hospital, this being a further instance of Lord Iveagh’s great liberality, he having previously devoted £200,000 to the building of improved dwellings for the London poor. In the very same journal appears an advertisement issued by the hospital above referred to, inviting applications for an assistant surgeon who will not be eligible unless he possess the F.R.C.S. England, thereby excluding those who only possess the Fellowship of the Irish College. I understand that these facts are about to be laid before Lord Iveagh, who, as an Irishman, can hardly be expected to continue to support institutions which do not admit Fellows of the Irish College *as suitable for competition* for the staffs of London hospitals. We have ample evidence of the thoroughness of the Irish examination for their F.R.C.S.; in fact, some are so bold as to assert that it is a more practical test than the English. However this may be, it seems hardly possible that this spirit of exclusiveness can be maintained much longer, and at least cannot be maintained with anything like a spirit of fairness.”

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

New Compressed “Tabloids.”

MESRS. BURROUGHS, WELLCOME & Co., of Snow Hill Buildings, London, E.C., have recently made three notable additions to the already long list of their well-known and justly prized “Tabloids.” Of these, the first is the alkaline and antiseptic tabloids, prepared according to Dr. Carl Seiler’s formula. It contains sodium bicarbonate, benzoate, borate, and salicylate, together with eucalyptia, thymol, menthol, and oil of gaultheria. One of these tabloids may be dissolved in a small wineglassful of warm water, and the solution

may then be used as a spray or gargle, or it may be sniffed up the nose, as directed by the physician.

The other tabloids are of compressed compound rhubarb powder (Gregory's powder)—the dose being one to four tabloids as a stomachic, antacid, and laxative—and of compressed ipecacuanha wine, five minims in each. As an expectorant, one of the latter tabloids may be allowed to dissolve slowly in the mouth occasionally. As an emetic, six tabloids dissolved in a little warm water may be taken, if so ordered by the physician.

“Spongia” Blotting Paper.

A sample book of the so-called “Spongia” Blotting Paper has been submitted to us by Messrs. Robert Craig & Sons, of the Caldercruix Paper Mills, Scotland. The “Spongia” paper possesses wonderful absorbent powers, taking up ink freely until it is ready to fall in pieces from use. This blotting paper is really composed of four separate layers or sheets, the two centre ones being made especially absorbent like a sponge—hence the name. It is stocked in 100, 80, 60, 48, and 38 lbs. demy, and is sold by all stationers in sheets, or in convenient packets at sixpence and one shilling each.

Dried Anti-diphtheritic Serum.

MESSRS. BURROUGHS, WELLCOME & Co., of Snow Hill Buildings, London, E.C., have forwarded to us a tube containing one gramme of dry Anti-diphtheritic Serum (B. W. & Co.) prepared in the form of fine golden scales.

Messrs. Burroughs, Wellcome & Co. were the first to prepare Anti-diphtheritic Serum in this active, portable, and permanent form, possessing the *full potency* of the liquid Serum. The therapeutic activity of the contents of each tube of this dry Anti-diphtheritic Serum (B. W. & Co.) is attested by the medical director in charge of their Bacteriological Laboratory, Mr. J. Bokenheim, and is guaranteed by the firm.

This dried Serum is freely soluble in about twice its volume of cold water. The contents of the tube represent ten cubic centimetres of the normal liquid Anti-diphtheritic Serum, and it is customary to dissolve this quantity in ten cubic centimetres (150 minims) of cool water which has been previously boiled. The firm guarantee this form of the Serum to keep for any reasonable period under ordinary conditions—a great advantage over fluid Serum, which is very difficult to preserve for any length of time.

Anti-diphtheritic Serum Exsiccatum (B. W. & Co.) is supplied in these one gramme tubes at one shilling per tube.

THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

SEPTEMBER 2, 1895.

PART I.

ORIGINAL COMMUNICATIONS.

ART. VI.—*Observations on Excision of the Rectum for Malignant Disease, describing a Method of Operation.** By FRANCIS T. HEUSTON, M.D., M.Ch., F.R.C.S.I.; Professor of Anatomy, Royal College of Surgeons; Consulting Surgeon to the Coombe Lying-in Hospital and to the Cripples' Home; Surgeon to the Adelaide Hospital.

THE operative treatment of malignant disease of the rectum has been for many years a subject of interest to surgeons, and of the different methods recommended for dealing with such cases none has had more vicissitudes than that of excision of the diseased portion of bowel and implicated structures surrounding it. Since the introduction of this operation by Faget in 1763, there have been periods when it held an acknowledged position, as there have also been periods when it was considered inadmissible. The reason for the disrepute into which this operation fell for so many years is evidently due to its adoption in improper cases; it is, however, my belief that, with our advance in surgery and a more accurate knowledge of the special circumstances which indicate the different methods of operation, its value will be more generally recognised,

* Read before the Surgical Section of the Royal Academy of Medicine in Ireland, on Friday, April 26th, 1895.

and my object in bringing this subject forward is to state what I consider to be the best method of dealing with a certain class of such cases:—

CASE I.—Mr. J. K., aged fifty-nine years, was recommended to me by my friend, Dr. Cooper Stawell, of Bagnalstown, in September, 1891, with the following history:—For a lengthened period, although his bowels were relieved normally in the morning, he had a great desire to go again about 10 p.m., when he passed a small quantity of mucus. Some seven months since he noticed blood on the stools, and a little blood also appeared with the mucus when he went in the evening. From this time he had great desire at intervals, it being frequently necessary to relieve the bowels seven or eight times during the night, blood and mucus passing on each occasion with a feeling of soreness near the anus. For the month before I saw him he had pain and difficulty during micturition, it being necessary to stand and force for some time before the urine came.

On examination I found a hard irregular growth implicating the anterior aspect of the bowel, extending from slightly above the upper border of the internal sphincter for about three inches upwards on the anterior and lateral walls of the bowel, but not implicating its posterior wall.

Operation being recommended and agreed to, the patient was retained in the lithotomy position by Clover's crutch, and an incision was made in the median line from the anus to the tip of the coccyx; the bowel was now separated in its entire circumference by a scissors, keeping below the diseased structures, and above the attachments to the bowel of the levator ani and the sphincter muscles, when the bowel came down without trouble, except on its anterior aspect, where it was intimately attached to the prostate gland, off which I separated it by careful dissection with a blunt knife and scissors, when there was no difficulty in drawing the bowel down and removing the diseased portion. There was little haemorrhage, as clip forceps were applied to each portion of the bowel before it was removed. Catgut sutures were now passed through the bowel about an inch above its cut extremity, including all its thickness, with the exception of the mucous coat, and then through the pelvic fascia and levator ani muscle; this closed off the superior pelvic space, and fixed the bowel in its position, thus hindering undue dragging on the second line of sutures, which were applied, connecting the cut extremity to the attachment of the levator and the sphincter muscles and mucous membrane which

I had left below when originally separating the bowel. A drainage-tube was now placed into the space behind the bowel, and the incision from the anus to the coccyx closed.

After the operation the patient progressed satisfactorily, the bowels being kept from moving by opium until the seventh day, when, the temperature showing an upward tendency, a dose of castor oil was given, after which recovery was uninterrupted, the patient being allowed out of bed a fortnight after operation, and being allowed home a week later, having full control over his bowels.

I have, on several occasions since, heard of this patient from Dr. Stawell, who reports that he is in perfect health. Microscopic examination showed the tumour to be cylindrical epithelioma. It is now three years and six months since operation.

Case II.—In June, 1891, I was consulted by Mrs H., aged fifty-one years, as to a pain in the lower part of her back, from which she had suffered for some years; this had become very severe for the past fortnight, being continuous even when lying down, although much worse when sitting or standing. Her bowels were confined, and seven months before seeing me she noticed a swelling at the anus, and pain on going to stool, which was much worse when the bowels were confined; she also noticed blood on the stools. On examination I found internal piles, one of which was ulcerated, but could ascertain no other abnormal condition.

Under treatment she rapidly recovered, and returned to the country.

I next saw Mrs. H. in June, 1892, when she informed me that she had a severe attack of influenza in January, after which she was greatly debilitated and had a severe pain in her back, with a gradually-increasing difficulty in obtaining movement of the bowels. When the bowels were relieved she had a feeling as if some obstruction existed, and had a severe burning pain for some time, after which a considerable quantity of blood and mucus passed. Believing her symptoms to be due to the influenza, she consulted a physician, who ascertained the presence of a tumour in the bowel; she was then seen by a surgeon, who agreed in the diagnosis of malignant disease, but declined operation, owing to the fixation of the tumour to the sacrum. The patient desiring my opinion, I examined her, and found a well-marked growth, implicating the posterior wall of the bowel, between two and three inches from the anus; this growth lay between the rectum and the sacrum, on which it could be slightly moved. The mucous membrane over

the tumour was ulcerated to about the size of a crown piece. Believing operation to be feasible, I requested a consultation with Mr. Kendal Franks, who agreed with my opinion.

The operation was performed in a similar manner to that already described.

When the tumour was reached I found it attached to the sacrum by cellular tissue, but had no difficulty in separating it; the diseased portion being removed, the bowel was drawn down and deep sutures applied, as in former case. When the second row of sutures uniting the extremities of the bowel were applied, I found a considerable cavity remained between the bowel and sacrum; a drainage-tube was passed into this, and the wound from the anus to the coccyx sutured, the tube being allowed exit at the posterior extremity of this incision.

For some days after the operation the patient was very restless. The stitch nearest the anus tore through, and a large quantity of serous discharge came through the drainage-tube. A purgative was given on the eighth day. She was allowed out of bed on the 17th day, and went home on the 31st day after the operation, having all but perfect control over her bowel, the only subsequent trouble being, that for a short time a slight mucous discharge came from the bowel at its posterior aspect where the suture tore through.

This patient has since communicated with me, and states she has no difficulty with her bowels, and that her health has greatly improved. Two years and nine months have now elapsed since operation.

I will now direct attention to certain points in connection with the operation. In these cases it is of importance that the peritoneal cavity be not opened; this may usually be attained by remembering that the peritoneum covers the anterior aspect of the rectum in the male to within three inches of the internal sphincter, while in the female you cannot be sure of more than two inches, although there may be much more in either case. At the posterior aspect of the bowel you can count on four or five inches.

As a practical rule, I consider that if the surgeon can, by digital examination, reach above the malignant growth, the peritoneum should be safe.

The great objection to excision of the rectum by the

usual operations is the incontinence owing to the removal of the sphincters; the importance of overcoming this sequela is apparent, and to point out how this may be attained I will describe the usual operation, and compare it with the method employed in the foregoing cases.

The usual operation is commenced by an incision from the rectum to the coccyx, called by the old writers the key to the operation; then incisions were made round the anus meeting in front, the attachment of the levator ani to the rectum is cut, and the bowel with sphincters drawn down; thus, most of the external sphincter and the entire of the internal sphincter are removed, and incontinence, which was often permanent, resulted. Further, the remains of the bowel not being usually united to the skin, owing to the frequency with which the sutures tore through, the raw surface, thus left to granulate, was a frequent source of septic infection and consequent stricture.

The operation I employ is commenced by an incision from the rectum to the coccyx, as in the former operation; this being in the median line, severs the attachment of the external sphincter and levator ani muscles to the anococygeal ligament; the rectum is now separated from the surrounding cellular tissue, and clip forceps applied to the rectum, at the commencement of the ampulla, below which the bowel is divided, the attachments of the levator ani and sphincter muscles to the bowel are thus not interfered with, and haemorrhage is restrained. The rectum being now completely divided above the internal sphincter, there is not much difficulty in drawing it downwards and backwards through the median incision, its separation from the prostate and base of bladder being facilitated by having to draw it backwards; clip forceps are now applied above the diseased portion, which is removed by a scissors. The upper portion of the bowel is now fixed by deep sutures attaching it, about an inch above its cut extremity, to the recto-vesical fascia and levator ani muscle, thus closing the space between the levator ani and the peritoneum. In applying these sutures care should be taken that the mucous coat of the bowel is not penetrated. A second row of sutures is now applied between the cut

extremity of the bowel and that portion which had been originally left below; these sutures should penetrate the entire thickness of the bowel in both instances. The object of the upper row of sutures is to so fix the bowel as to obviate the danger of the sutures uniting the cut extremities of the bowel tearing through. The incision from the anus to the coccyx is now closed, the most anterior suture including the posterior aspect of the bowel, but not penetrating the mucous coat. The levator ani and sphincters will thus have their normal relation to the extremity of the bowel preserved. It might be thought that the lower portion of the bowel is in danger of sloughing owing to the superior and middle haemorrhoidal arteries being cut away from it, but the haemorrhoidal branches of the pudic arteries are sufficient to retain its vitality.

It will be seen that both the cases I bring forward were examples of malignant disease in the middle third of the rectum—in fact, such cases as are frequently considered unsuitable for operation, as actually occurred in Case II., or are subjected to one of the numerous extensive surgical procedures recently recommended and employed. If I can show that such cases may be successfully operated on by a more simple and less fatal method, my object in bringing this subject forward will be attained.

On referring to recent literature on this subject it will be seen that cases of malignant disease implicating the middle third of the rectum are frequently subjected to operations requiring removal of the coccyx and part of the sacrum, by oblique or transverse section, as in the operations of Kraske and Bardenheuer, or osteoplastic resection of those bones, as in that of Rydygier; that in most of those cases no attempt is made to restore control over the bowel owing to the necessarily abnormal position of its termination, the patient being thus condemned to the permanent employment of some—usually imperfect—apparatus to retain the faeces in the bowel until evacuation is desirable. I wish it to be understood that I do not condemn such operations, which have a fair and legitimate field of their own, when the disease is situated in the upper part of the bowel, but I consider them unnecessary

in most of the cases restricted to the middle and lower third of the bowel.

Should the peritoneal cavity be opened in the operation I favour, it is very effectually closed by the deep row of sutures; and although the probability of a favourable termination to the case is thus lessened, I do not consider the possibility of such a complication to be sufficient to contra-indicate its employment.

The advantages I claim for this operation are—it preserves the normal functions of the bowel, subsequent stricture is not so liable as after the usual perineal operation, convalescence is rapid, the mortality is lower, and the disease is no more liable to recur than after the more extensive operations.

ART VII.—*Arsenical Multiple Neuritis following the application of a Cancer Cure.** By ALFRED R. PARSONS, M.B. Univ. Dubl., F.R.C.P.; Physician to the City of Dublin Hospital.

FOR centuries past it has been recognised that disorders of locomotion or sensation have been frequently associated with disease of either the brain or spinal cord. That affections of peripheral portions of the nervous system could give rise to similar kinds of disturbance does not seem to have suggested itself to the minds of any of the earlier neurologists. To Robert James Graves, whose name is so intimately associated with the history of medicine in Ireland, belongs, apparently, the honour of having first suggested, some fifty years ago, that "paralysis, in the absence of any lesion in the brain or spinal cord, may arise from disease commencing and originating in the nervous extremities alone."^b This hypothesis does not appear to have borne any immediate fruit, for not till the year 1864 was it placed by Duméril, who verified the presence of multiple neuritis at an autopsy, on the sure foundation of

* Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, December 15, 1894.

^b Quoted by Ross and Bury. *A Treatise on Peripheral Neuritis*, p. 2. London. 1893.

pathological investigation. Still, notwithstanding these observations, cases which are now readily recognised as examples of multiple neuritis continued to be reported as illustrations of obscure affections of the spinal cord. However, about 1880, that remarkable distribution of physical signs and symptoms which we now know indicates peripheral rather than central lesions became more generally recognised, and from that time onward our knowledge of multiple neuritis has been steadily increasing. The first cases in these countries in which the diagnosis was confirmed by a *post mortem* examination, were reported by Sir Grainger Stewart in 1881. Since then the evidence has become overwhelming, and whatever shadow of a doubt, as to the possibility of primary lesions of the nerves producing paralysis, may have existed some twenty years ago, has now completely disappeared before the clear cold light of pathological observation and experimental investigation.

Although the aetiology of multiple neuritis is often obscure, there are certain factors which are universally admitted as potent in its production. Foremost among these is chronic alcoholism; then come the acute specific diseases, especially diphtheria, and in the next group of causes are some of the heavy metals and metalloids—*e.g.*, lead, silver, arsenic, mercury, &c. Of these, lead is by far the most frequent, and arsenic, though separated by a long interval, probably comes second. Peripheral neuritis, the result of silver or mercurial poisoning, is exceedingly rare.

In the case of multiple neuritis now under consideration, there can, it would seem, be no doubt that arsenic has been the exciting cause, and as such cases—more especially since the Act of 1851, restricting the sale of arsenic, was passed—have been very exceptional, the clinical notes may not be without interest. The literature of this subject, scattered through medical journals and treatises on toxicology, presents a few cases in which paralytic phenomena have followed on the prolonged administration of Fowler's solution, or have arisen from the absorption of arsenic in those whose occupation has brought them in contact with

it. To this latter class belong naturalists who use large quantities of arsenic in the preservation of skins of animals, and manufacturers and retailers of goods, such as Indian muslins, green papers, &c., in which arsenic is often employed freely as a pigment. Lastly, nervous sequelæ in a few rare instances have manifested themselves when arsenic has been taken through mistake, or with a suicidal motive, or been administered with a homicidal intent. But in none of the recorded cases has the arsenic gained entrance to the nervous system in exactly the same way as that disclosed by the following clinical notes:—

CASE.—A. B., aged twenty-eight, by occupation a laundress, was admitted to the City of Dublin Hospital on August 7th, 1894, complaining of vomiting, diarrhoea, and great weakness. She was able, assisting herself by the bannisters, to walk up the stairs to the female ward. When seen on the following morning her temperature was 97° F., her pulse 104, and respirations 25 per minute. She was very well nourished, of rather a ruddy type of countenance, and did not look very ill. There was nothing definite to be detected on physical examination, except a somewhat circularly-shaped black slough, not quite so large as the palm of the hand, firmly adherent to the right breast above the nipple. It was surrounded by a ring of inflamed tissue, and on palpation an ill-defined hard mass could be felt in the breast. An attempt was made to remove the slough, but nothing separated except a few small flakes like brown paper soaked with water. Asked to explain the origin of this slough, she replied that a plaster had been put on her breast some days previously, and that she blamed it for the state in which her breast was. I understood from her that she had applied the plaster to her breast on account of a blow she had received on the gland. The urine was acid, sp. gr. 1015. It contained a faint trace of albumen, no sugar, but it was thought that the chlorides were somewhat diminished. The diarrhoea and vomiting ceased on her admission to hospital, and during the week I had her under observation she complained chiefly of feeling weak, of pain in her mouth and throat, of some itchiness and tenderness about the eyes, and of spots on her face. Nothing very striking was noticed on examination, but she was ordered a mouth wash and a powder for her face. I examined her breast again and felt that I had not yet got to the bottom of the case. I was satisfied that the sharply defined slough was not the result of an injury, but that

some powerful irritant had been applied; arsenic at once suggested itself; and as I had discovered no cause for the vomiting and diarrhoea an idea flashed across my mind that possibly they were the result of the same cause. On consideration, however, it seemed highly improbable that symptoms presumably the result of the local irritation of the arsenic, could be produced by its absorption from a broken surface remote from the alimentary canal; consequently the idea took no definite shape. The breast was poulticed and dressed, but there was no indication of the slough separating when I went on vacation, a week after her admission. In my absence she came under Dr. Graves' care. The applications were continued as before, and after some time the slough had so far separated that the major portion of it was removed. Some ten days after her admission she complained of violent shooting pains in her arms and legs. The pain was at times of a burning character, and patient sometimes felt as if her whole body was on fire. She experienced always more pain in her right side than in her left. She became very restless, shouting out suddenly, and causing so much disturbance in the ward, especially at night, that the then Resident Pupil, Mr. Griffin, was frequently called up by the nurse. He sometimes relieved her temporarily by holding her arms and suggesting to her that the pain was better, but was often obliged to give her an opiate to quiet her.

Mr. Griffin says that at this time he did not think there was any connection between the pains and her breast, and he considered the pains were probably of an hysterical nature—a supposition which seemed to be confirmed by the irritable, excitable, and at times almost violent temperament of the patient. Gradually motor phenomena commenced to manifest themselves in her extremities.

On admission she walked up the stairs, and was able for two or three weeks after that to feed herself. Then on attempting to convey food to her mouth she often spilled the tea about her bed, broke a plate and a mug, and finally lost the power, not only of feeding herself, but of doing anything whatever with her hands. Similarly, power in the lower extremities disappeared, especially from the knees down.

On my return from the country, about the middle of September, 1894, I found that the slough had completely separated, leaving a granulating surface of a fairly healthy character, and, though the swelling was apparently unaltered, some enlarged glands were to be felt in the right axilla. She had now almost complete loss of power in her forearms, the wrists dropped, and grasping power was practically nil. She was unable to stand, and though she sometimes got out

of bed for a moment or two, she kept herself from falling by throwing her body across a small table at the bedside. She still suffered considerably from violent pains in the extremities, and complained of abnormal sensations—paræsthesiæ—numbness, tingling, pins and needles, &c. She was hyperæsthetic in the forearms, hands, and legs, but I could find no areas of anaesthesia. There was complete abolition of the plantar and knee reflexæ, and profuse sweating of the hands and feet. It was, therefore, clear that she was suffering from something more than hysteria, and a peripheral neuritis seemed the most probable diagnosis.

On careful inquiry we were able to obtain a much more detailed history than that she gave us at first. About last Christmas (1893), she noticed a swelling in her right breast, which she attributed to a blow she received from the handle of a mangle some months previously. Last July (1894) she found that the swelling was increasing in size; and an old woman, one of her companions in the laundry, noticing that something was troubling her, inquired as to its cause. In response to this request the swelling was demonstrated, and without hesitation pronounced to be a cancer. For her further edification she was informed by this wise companion that if she showed it to a doctor he would cut her breast out; that the lump would grow again in two or three years, and finally kill her—a prognosis which is unfortunately only too often justified by events where the diagnosis of mammary cancer is correct. To combat the mental depression thus produced, she was informed that a cure which had been used with great success on a lady's breast, and which would take the swelling out by the roots, was available, and this her companion was willing to obtain for her. Such a brilliant and successful line of treatment offered a marked contrast to the humiliating one of orthodox medicine, and my patient gladly consented to submit to it.

The cure was applied on Wednesday morning, August 1st, 1894, in the form of a plaster. It remained on till Thursday, when it dropped off, without apparently having produced any visible effect. But the wise woman was quite equal to the emergency. "We must break the skin!" was the solution of the difficulty, and on Thursday night a fly blister was applied. By Friday morning numerous vesicles had formed, some of them had burst, others were opened with a scissors, and between 8 30 a.m. and 9 a.m., Friday, the cancer cure was re-applied. Almost immediately, to use the patient's own expression, the pain became "raging," and within an hour she felt exceedingly ill. She became giddy, and surrounding objects became double or treble, and there was a

noise like bells in her ears. Still she did not desist from her work till dinner hour, 2 p.m. With difficulty she staggered home, reeling like one who was drunk, and, too ill to undress, flung herself across her bed and almost immediately commenced to vomit. The emesis was uncontrollable; as she expressed it, her head remained for the next forty-eight hours almost continually hanging over the basin, and she wondered where all the fluid could be coming from. Diarrhoea—six motions in twenty-four hours—set in, and continued till her admission to hospital.

With regard to her previous history, she states that she was always a very temperate woman, and, as far as she can remember, in excellent health. Her father died from a stroke some thirteen years ago, and her mother from bronchitis. Two of her brothers died in childhood; one brother and two sisters are alive and in good health.

Such a history left little doubt on my mind that she was suffering from arsenical neuritis, following the application of a cancer cure, but so far I had no positive proof that such was the case. On mentioning some of the details to Dr. Purser, he suggested the advisableness of examining the urine for arsenic. About twenty-five ounces were collected and examined, after Reinsch's method, but with negative results. At this result I was not much surprised, as I used only a comparatively small quantity of urine, and eight weeks had elapsed since the application of the plaster.

It was explained to the patient how very necessary it was to be absolutely sure what irritant had been used, but she knew nothing of the woman who had procured the cure, and could not hold out much hope of being able to obtain any of it. She promised, however, to speak to her brother, and one morning in October a small package was handed to me, containing a dark coarse powder with yellow sulphur-like particles scattered through it, stated to be of the same nature as that which had been applied to the breast. The examination for arsenic was not completed when, on Monday, October 22nd, about 11 a.m., a note was handed to me, which read as follows:—“Dr. Parsons—A gentleman is just round the side of Baggotrath Church, on Waterloo-road” (then follows a description of his

appearance), "who would be glad of a private interview for a few moments." Mentally I ran over any sins of omission or commission in connection with my hospital work of which I had been recently guilty, and having a tolerably clear conscience, I decided to yield to his request. The gentleman was there, and so nervous and excited that I thought, at first, he must be a lunatic, but my fears were groundless. Having obtained a conditional promise of secrecy, he proceeded to inform me that it was he who had supplied the powder, and that for the last month he had not had a single night's rest since he had learned what disastrous results had followed its application.

The powder used on the woman's breast consisted of crow-foot, saffron and sulphur, with about thirty grains of arsenic. I asked if the powder I had received corresponded with that used, and he replied—"Yes, except that it did not contain so much arsenic as the cure." He then gave me some of the latter, which very closely resembled the powder described above. I pointed out the great injury he had done this woman, the risk he was running, and he promised faithfully never to use such applications again.

The analysis of the first powder was completed, and the sublimate obtained consisted of numerous octahedral crystals of oxide of arsenic (As_2O_3).

There was now no question about arsenic having been the active agent, and on October 23rd I put my patient on 10 grain doses of iodide of potassium three times a day, hoping to facilitate the excretion of any arsenic which might be still present in her system. For the twelve days following all the urine passed was collected, in all about twenty pints. This was boiled down daily in the chemical laboratory, till concentrated to about thirty ounces, and then I proceeded to look for arsenic as formerly, except that I used every possible device I knew of to ensure the attachment of any arsenic which might be present to the copper. Only a very small amount of sublimate was obtained, and it was not oxide of arsenic. An examination of the powder obtained from the "cancer doctor" demonstrated the presence of arsenic in very large amount.

As this completes the toxicological aspect of the case, I

would wish here to express my sincere and grateful thanks to Professor Reynolds for the very kind way in which he allowed me to use his laboratory and its resources, and for the advice, guidance, and supervision which he so freely gave me. To his assistants, Messrs. Werner and Early, my best thanks are also due.

To return to the clinical aspect of the case—it will be remembered that about the middle of September, 1894, there was almost complete paralysis of the forearms and hands, with some weakness of the upper arms; distinct loss of power in the lower extremities below the knees; violent pain, hyperesthesia, and abnormal sensations in both upper and lower limbs; absence of the superficial plantar and deep knee reflexes; profuse sweating of hands and feet; and some slight atrophy of the intrinsic muscles of the hands.

Towards the end of September, with the assistance of a nurse, she got out at the side of the bed, but was unable to stand except by supporting herself by leaning the backs of her wrists against a table. She complained of the pain the attempt to stand gave her. If supported she could make some attempt at walking, but even at this stage it seemed as if she wanted guidance rather than actual support. Slight improvement in the muscular power of the arms and wrists was noticed. She was able to raise the latter slightly, and the grasping power of her left hand was a little stronger. Several attempts were made to examine the electrical reactions of the muscles, but, owing to the very severe pain excited, little information could be obtained except that their irritability to the Faradic current was greatly reduced, the flexors being, if anything, more easily excited than the extensors.

As power was returning, inco-ordination in the upper and lower extremities became more and more distinct. She could not rapidly touch the tip of her nose with the extended finger when her eyes were shut, or button her dressing gown, as her fingers fumbled about in a very irregular fashion. She could not walk except guided, nor stand with her feet close together, and her eyes shut, or even with her eyes open, except her feet were far apart. She complained that the skin of her feet felt thick, and to this attributed her difficulty in standing and walking. She was unable to unbutton her dressing gown, to hold her mug firmly in her hand, or to make any attempt at feeding herself. About the middle of October the pains were less acute, and she was sleeping better at night. Towards the end of the same month she walked some

yards unsupported, in her bare feet, but had great difficulty in maintaining her equilibrium, especially on turning, and though able to stand on a broad basis, reeled on attempting to close her eyes. She complained of severe pain in her legs on attempting to walk. The drop-wrist has disappeared, but she has only very slight power in her hands, and raises up the bedclothes with the back of her wrists. She is still unable to unbutton her dress, and has great difficulty in finding where the button is. To do so, she runs her extended fingers down the side of her gown till she feels her fingers caught by the button, but even then she cannot grasp it. She is now again attempting to feed herself from her mug by putting her thumb through the handle and allowing the lower part of the cup to rest against the ulnar side of the hand.

On November 2nd, *i.e.*, three months after the application of the cancer cure, she states that she is nearly free from pain and that her "natural feeling" is coming back to her hand. Extension movements at wrists and in fingers are now tolerably good, but flexion is only partial and very feeble. The hands still perspire profusely. Most of the muscles in the upper extremities were found to react to the continuous current, but the details of the examination have been mislaid.

November 11th—The ulcer on the right breast has healed up completely. There is still a hard mass to be felt in the breast, the retraction of the nipple has become most marked, and the enlarged glands in the axilla are still present. She feels much better and is able to walk across the ward without any assistance, but there is distinct inco-ordination of movement. She continued to improve from this date till the end of the month, the record for which is:—There is still considerable weakness in the upper extremities, more especially in the flexors; bending the fingers completely is not yet possible. Only very slight loss of sensation can be detected on examination, though she complains of numbness in her finger tips. There is distinct inco-ordination evidenced by the difficulty she has in performing the finer movements. The thenar eminences and the first dorsal interossei present marked atrophy, and the fingers are of an unhealthy sodden appearance. Power in the forearms is fairly good, and there is no pronounced nutritive disturbance. In the upper arms there seems to be no indication of any morbid process. There is some weakness in the lower extremities, but no marked loss of sensation, and the hyperæsthesia has disappeared. The knee-jerks are absent. Inco-ordination of movement is still visible, though not so distinct as formerly. During the last few months her hair has fallen out in considerable quantities,

and from being of a dark brown colour has become grey, especially over the front of her head. It was thought that possibly a dye might have been in use before her admission to hospital, but not the slightest proof in support of this supposition could be obtained.

As optic neuritis has been recorded in two cases of arsenical intoxication, I asked Mr. Arthur Benson, Ophthalmologist to the Hospital, to kindly examine her eyes, and he reports that at the time of his examination there was none, nor any trace of a previously existing inflammation. We have never found any pigmentation or desquamation of the skin; neither have there been any herpetic eruptions. She has never had any vesical or rectal trouble, and there has been no disturbance of the menstrual function. Her temperature since her admission has been practically normal; the highest elevation recorded was 99.6°, taken on the fourth day after her admission. The pulse has varied from 72 to 120, and the respirations from 16 to 20 per minute.

January, 1895—Patient has been slowly but steadily improving; her hair is thicker and not so grey. She has still much difficulty in picking up a pin from a flat surface, owing to some slight loss of sensation in her finger tips. There is also a trace of inco-ordination in her lower extremities, particularly when she tries to walk along a narrow plank. Her nails present transverse ridges, especially well-marked on right hand, and the skin is glossy and thin around the nails. Her hands still perspire considerably and also her feet, but the latter less than formerly. As the mass in her breast did not show any distinct indication of subsiding, and the axillary glands still remained enlarged, notwithstanding the healing of the ulcer produced by the cancer paste, I asked Mr. Wheeler to see the patient again with me, and we agreed that it would be desirable to have breast and glands removed. Her general condition now seemed sufficiently good to allow her to submit to an operation, but she was very strongly opposed to anything which would involve the removal of her breast, and could not be persuaded to consent to it for some weeks.

March 6th—There has been no material change in her condition since last note. She has, however, less inco-ordination, and can once again use a safety pin in dressing herself, and, though with difficulty, write her name. The knee-jerk is still absent; and the ridges have almost disappeared from her nails.

March 7th—The breast and numerous enlarged glands were successfully removed by Mr. Wheeler. Microscopical examination confirmed the clinical diagnosis of malignant disease, as the tumour proved to be an irregular-celled carcinoma. The wound healed up

rapidly. In May the patient, who had so far recovered that she was able to feed and dress herself, and walk without difficulty, was sent to a convalescent home.

The following points are, I think, worthy of particular attention:—

(A) "The cure," notwithstanding the large quantity of arsenic which it contained, had no action on the unbroken skin, though it lay in contact with it for over twenty-four hours.* Christison states that arsenic applied to the sound skin of animals does not easily affect it, and mentions the experiments of Jaeger, in which no effect was produced if the poison was simply placed in contact with the skin. "Nay, even," he proceeds, "when rubbed in with fatty matters it does not operate with energy," but he thinks it may possibly be more active when applied to the delicate skin of human beings, and quotes two cases in which very severe inflammation followed the application of arsenic to the scalp. In one of these it was used as an ointment to destroy pediculi, and after a few days' application ulceration of the scalp, swelling of the cervical and salivary glands, and oedema of the eyelids, set in. It would seem highly probable in this case that there were some abrasions of the epithelium before the ointment was used. The second case is more to the point. It is extracted from the "Acta Germanica" for 1730:—"A student having found in the street a parcel of arsenic, his mother mistook it for hair powder, and as he had to deliver a valedictory speech at school next day, she advised him to powder himself well with it in the morning. This he accordingly did. In the middle of his speech he was attacked with acute pain of the face, and a fertile crop of pustules soon broke out upon it. A crust which was formed separated in a few weeks, and he soon completely recovered." Schultze quotes five cases similar to the latter arising from arsenic being mistaken for hair powder, one of which proved fatal. Naunyn, in von Ziemssen's Encyclopædia, also states that arsenic may be absorbed from the unbroken skin, but in the case under consideration it was not.

(B.) *Rapidity of Absorption.*—The first attempt having

* Christison "On Poisons," p. 237. Edinburgh. 1829.

failed, it will be remembered that the "cure" was again applied between 8 30 and 9 a.m. to a surface deprived by vesication of its epithelium, and already somewhat inflamed. Almost immediately severe local pain was experienced, and within an hour constitutional disturbances commenced to manifest themselves. The rate of absorption greatly depends on the nature of the broken surface to which the arsenic is applied. If the ulcer be chronic absorption is very slow as a rule, but if the wound be fresh, to again quote from Christison, "the experiments of Sproegel repeated by Jaeger, and more recently by Mr. Brodie, leave no doubt that it acts with at least as great rapidity as when swallowed." Whether applied externally or taken internally, symptoms manifest themselves in from one to six hours.

(C.) *The Early Symptoms.*—In my patient's case, almost immediately after application, most acute pain was experienced in the breast. In from one to three hours cerebral symptoms, giddiness, double vision, faintness, reeling gait, as if drunk, accompanied by great prostration, were noticed. In six hours symptoms of an acute gastro-enteritis—uncontrollable vomiting and diarrhoea—so severe and accompanied by so much collapse as in many cases to suggest cholera, set in. This case confirms the statement made by many toxicologists, that arsenic, in whatever manner it is introduced into the system, produces severe gastro-intestinal irritation. The early symptoms in this case could not have been much more pronounced if the poison had been taken internally, instead of being applied to the skin.

(D.) *Amount of Fatal Dose.*—Thirty grains of oxide of arsenic are stated to have been used in this cancer cure, but although we have no means of determining the amount absorbed, it is worth bearing in mind that the paste with the arsenic was left adherent to the breast for twelve hours. Fatal results have been recorded from small doses of arsenic, e.g., half an ounce of Fowler's solution (2 grains of As_2O_3) in unknown doses spread over five days, and a strong servant girl was killed by two grains of the white oxide in two ounces of fly water in thirty-six hours. On the contrary, not to speak of arsenic eaters, very large doses—up to one ounce and a-half—of Fowler's solution have been taken without a fatal

issue. Quantities such as this which have not been followed by fatal results have most probably been taken on a full stomach, and promptly got rid of by emesis.

(E.) *The Period after which Secondary Nervous Symptoms set in.*—In this case the time from the application of the cancer cure, and the early acute gastro-intestinal symptoms to the commencement of nervous phenomena referable to the extremities, was between two and three weeks. According to Naunyn, these secondary symptoms manifest themselves generally in the second or third week, but sometimes not till later.

(F.) *The Secondary Nervous Symptoms.*—The case under consideration presented motor, including ataxic, sensory, reflex, vaso-motor, trophic, and finally electrical disturbances. In the early stages the motor and sensory disturbances were prominent, in the later the ataxic and paretic symptoms were the more pronounced. Dana (quoted by Ross and Bury) describes two main types of arsenical paralysis:—(1) The ordinary mixed motor and sensory paralysis, the motor troubles and atrophy being the more marked. (2) The pseudo-tabetic form in which there is no pronounced motor paralysis, but marked sensory troubles, including ataxia.

This patient, for about the first three months of her illness, corresponded tolerably well with the first type, while during the remaining months, owing to the prominence of the ataxic and sensory disturbances, she would come under the second class.

(G.) *Path and rate of Elimination of the Arsenic.*—The first examination of the urine was made with twenty-four ounces about eight weeks after the application of the cure; it was negative. The second examination was made with nearly four hundred ounces of urine, passed while patient was taking iodide of potassium, eleven weeks after absorption. It was likewise negative. All authorities are agreed that arsenic is eliminated rapidly—to a large extent by the bile, to a less extent by the urine. Christison states that after fourteen or fifteen days it disappears from all the organs, while Wharton and Stillé teach that the time required for complete elimination is about one month, and mention three cases in which the urine ceased to contain arsenic after the sixteenth, twenty-first, and twenty-third days respectively. They also quote a case

of Dr. Gaillard's, of chronic poisoning by repeated doses of Fowler's solution, in which arsenic was detectable in the urine six and one-half weeks after the last dose, but one week later none could be found. It was consequently not to be wondered at that both my examinations were attended by negative results. They were made too late.

(H.) *The Site and Nature of the Lesion.*—From the remarkable distribution of the paralysis and the severe sensory disturbances there can be little doubt that the main lesion is a peripheral neuritis. This supposition is borne out by the very close resemblance of the symptoms to those of chronic paralysis of alcoholic origin, in which repeated pathological investigations have demonstrated the presence of a peripheral neuritis. Some authorities, however, are in favour of the view held by Popoff, who, from experimental observations on dogs, and, in one case, after examination of the cord of a rapidly fatal case of arsenical poisoning in man, teaches that the chief lesion is a diffuse myelitis. Within the last few years Erlicki and Rybalken examined the nervous system in two cases of arsenical paralysis, and found disease of both the anterior horns and the peripheral nerves.

Differential Diagnosis.—The diagnosis in this case became quite clear after my interview with the "cancer doctor." Even in the absence of the information afforded by him only two or three other hypotheses were, I think, probable:—
(1) In the very early stage hysteria was, I think, a mistake easily made. Such a diagnosis was, however, soon negatived by the absence of the knee-jerk, which, though it may be exaggerated, is present in all cases of hysteria where there is no voluntary contraction of the flexor tendons of the knee.
(2) Alcoholic paralysis, which, as far as the symptoms and physical signs in the extremities were concerned, would be practically indistinguishable from arsenical palsy. Here we had to rely mainly on the history, and I know of no reason for disbelieving the patient's statement, that she never took stimulants. The condition of the breast, conjunctival irritation, alteration in colour of hair, &c., would be inexplicable on supposition of chronic alcoholism.
(3) Locomotor ataxy, though suggested by the inco-ordination and absence of knee-jerk, is excluded by the manifest impairment of muscular

power, by the atrophy, by the absence of the Argyll-Robertson pupil, and of any vesical or rectal trouble.

Prognosis. — In cases of acute arsenical poisoning the greatest danger to life is during the first six days. Should these be successfully tided over, there is always the possibility of the occurrence of nervous sequelæ, such as are above described. Recovery from these is exceedingly slow, months elapsing before the patient is sufficiently convalescent to be discharged from hospital. Probably in all cases there is a greater or less amount of permanent mischief done, in some cases so slight as to be only detectable on careful examination, but in others so distinct as to interfere with the patients resuming their former avocation. This patient has recovered to a considerable degree, but, although nine months have passed away since the "cure" was applied, she is still far from being as strong as she formerly was.

Treatment. — During the days of acute pain anodynes and sedatives are generally necessary. Later on electricity, massage, and friction help to maintain the nutrition of the muscles, and to a considerable extent prevent their atrophy. As soon as the diagnosis of this case became clear, the patient was given large doses of iodide of potassium. Müller's view that this line of treatment hastens the elimination of the arsenic is not universally accepted, but I thought it worthy of a trial. Subsequent examinations proved that the arsenic had been all eliminated before the patient had even commenced to take the drug. She was fed liberally, and nature was assisted as far as possible in carrying out her own cure.

In conclusion, I must express my thanks to my resident pupils—Messrs. Griffin, Dawson, and William Croly—who, in succession, had this patient under their care, and to my clinical clerk, Mr. Thomas Hewitt, to whom I am indebted for many of the notes incorporated in the clinical records of the case.

ART. VIII.—*Notes on Old Native Remedies.* By HENRY S. PURDON, M.D.; Physician to Belfast Skin Hospital.

It has occurred to the writer that more or less interest might be taken in some of the herbs and remedies used in the days of our great grandparents which still, in various country districts, have more or less of a local reputation.

The celebrated Dr. Nicholas Culpepper, who wrote his "Complete Herbal" in 1653, for the "cure of all disorders incident to mankind," mixes up the "government and virtues" of the planets with the medicinal qualities of the plant he is describing, and which, in the present day, is only interesting as showing former ignorance, contrasted with our knowledge of the correct use of drugs in the 19th century.

Agrimony (*Agrimonia eupatoria*) is a well-known plant. It was formerly used internally in colic and diarrhoea, whilst made into ointment with lard, or used as a lotion, for the treatment of ulcers, cancer, and wounds. Old Dr. Culpepper, writing of agrimony, remarks: "It is a most admirable remedy for such whose livers are annoyed either by heat or cold. The liver is the former of blood, and blood the nourisher of the body, and agrimony a 'strengthener of the liver.'" No doubt in *bilious* diarrhoea it has been of service.

Burdock Root (*Arctium nemorosum*).—Everyone living in the country, at least in the north-east of Ireland, is familiar with the appearance of burdock, still largely used, especially when combined with *Bogbean* (*Menyanthes trifoliata*) and *Yarrow* (*Achillea millefolium*) as a decoction to "purify the blood." Formerly a tincture of the seeds of burdock made with wine was taken for sciatica. Burdock is a diuretic and sudorific. Messrs. Trimble and MacFarland (*American Journal of Pharmacy*, 1888) have found in the seeds a bitter principle which is a glucoside; the root is also rich in potassium salts, which may account for its curative action in psoriasis, gout, and rheumatism.

Stillé and Maisch, *Dispensatory*, 1879, accredit burdock with producing a gradual and insensible modification of nutrition. The seeds have only recently attracted attention, chiefly owing to the case of Dr. Reiter, who details the treatment of himself for inherited psoriasis with this remedy.

in the *Ephemeris (Therapeutic Gazette, 1882)*; also another case by Dr. Bentley, 1884. In both cases the use of burdock removed the psoriasis.

Buckthorn (Rhamnus catharticus) is very rare in the north-east of Ireland. I see that Messrs. Stewart and Corry, in their "Flora of North East of Ireland," mention only three places in County Antrim and one in County Derry in which buckthorn has been found. Buckthorn is a powerful cathartic, of late years not much used, except in form of syrup for purging dogs; however, as its near neighbour, *Cascara Sagrada (Rhamnus purshiana)* is now so fashionable, it is well to mention this excellent drug, which the celebrated Sydenham says, "purges in a manner only water, and evacuates a great quantity of it, does not disturb the blood, nor render the urine high-coloured, as other purges usually do, and this syrup of buckthorn has but one ill property—viz., that whilst it is working, it makes the sick very thirsty."

Butcher's Broom, well known to country people, is far superior as a diuretic in all forms of dropsy to the common broom (*Cytisus scoparius*). Butcher's broom is a "tonico-diuretic," often improves the appetite, and is especially useful in "Bright's disease." The leaves differ considerably from ordinary broom, as is well known, and the flower is whitish. Peasants often combine parsley with the broom, the latter being supposed to be useful in affections of the bladder or difficulty in voiding urine; also in "gravel."

An excellent tonic and stomachic used by our forefathers in atonic dyspepsia and as an enema in ascarides was decoction of chamomile flowers, now nearly obsolete. The *Anthemis nobilis* is met with in many parts of the County Down, as well as in Antrim and Derry. If the decoction be taken when warm it acts as a speedy emetic. Formerly chamomile flowers were used largely as fomentations to affections of the eyes, joints, &c.

White Bryony root, the root of the *Bryonia dioica*, is scraped and used as a poultice to "black eyes"; also sprians. In the former case it is supposed, if applied early, to prevent discolouration.

Red clover, the Trifolium pratense, so useful for affording honey to bees, is said to make an excellent lotion for bathing

foul sores and ulcers. Now we come to *goose grass*, or *Galium aparine*, long looked upon as a blood purifier, often prescribed by herbalists for psoriasis, taken internally, and pounded stalks applied as a poultice to affected part. I have known of cases of psoriasis in which this herb, as well as *Scurvy grass*, the *Cochlearia officinalis*, have been of decided benefit. Indeed, all the *Cochleariae* are useful, *common horse radish* being especially so in scurvy. In *Acne* a little of the compound spirit gently touched on the acne papule proves often curative. *Golden rod* (*Solidago virgaurea*) is a well-known country remedy for flatulence, being a carminative of some power. "Golden rod" is met with in the neighbourhood of the Mourne Mountains, and is an aromatic and stimulant. Old Culpepper remarks that Golden rod is claimed "by Venus, and therefore, to be sure, it respects beauty lost." In his day it was taken as a remedy against stone, to assist in "voiding gravel," and promotes the menses. The *Plantago major*, or common plantain met with in all meadows, is an old Irish remedy called by the Celtic name *Slan lus*, or healing or saving leaf, which is the translation of the Irish words. It was formerly given in infusion as a haemostatic in bleeding from lungs, stomach, or uterus. A most valuable herb is the common yellow ragweed (*Senecio Jacobaea*). I have known cases of catarrhal jaundice relieved by a decoction of the leaves, drunk fasting, each morning for three days "cured," and a distinguished London physician, about a year since, reported some cases in the *British Medical Journal* of uterine complaints, as suppression of menses, relieved by its use—in fact, Messrs. Grattan and Co., apothecaries, Belfast, keep a fluid extract of this herb, or did do so, it having been prescribed formerly by some of the older medical men in this neighbourhood. *Sage Tea* was formerly a household remedy for diaphoretic purposes, whilst the "Golden Saxifrage" was used as a stomachic. The *Sambucus nigra*, or common elder, is well known. Hippocrates employed the elder in medicine. Elder flower wine was much used by our great grandmothers, whilst in the present day elder flower water is still used by maidens as a cosmetic; so is also *Rosemary* as a hair wash. The wild *Rosemary* is not very common, known by botanical

name of *Arctostaphylos* (or *Andromeda polifolia*). It is met with in one or two places in County Down. Rose-noble (*Scrophularia nodosa*) is supposed to produce a copious flow of the menses, and, on the other hand, is a common plant. The leaves of Rosemary were formerly smoked for asthma and cough of phthisis. *Thyme* (*Thymus vulgaris*) was formerly used as a tea for incontinence of urine. In the present day it supplies us with the antiseptic *Thymol*, so well known to surgeons. *Tormentil* or *Septfoil* (*Potentilla tormentilla*) used to be in the Pharmacopœia, and was used as an astringent and tonic in cases of diarrhoea. *Tansy*, *Centaury*, *Marsh Mallow*, still useful as an emulcient for coughs, and crouch grass for cystitis, are still well known to country people. But the great water dock (*Rumex hydrolapathum*), met with in many parts of Counties of Antrim and Down, is a valuable indigenous herb, formerly used in various complaints, chiefly of the skin, prescribed either in lotion or ointment—the former for fomenting the eyes, inflamed breasts in females, and the latter used by the late Sir J. Simpson as an application to acne. The roots contain tannin. Culpepper, in his day, recommends the ointment as a dressing for *Noli-me-tangere*, or lupus, and says he has seen it do much good. A writer, the late Herbert Hore, Esq., in the "Journal of Royal Society of Antiquaries of Ireland," June, 1895, referring to "wise or fairy women," describes them as persons "who, unsupplied by commerce with mineral drugs, sought and found in the wide and varied field spread by nature before them the simple remedies which they supplied to the sick and wounded. Their *materia medica* was restricted to roots and leaves, and by the hereditary experience of ages they possessed considerable knowledge of their native properties. Their Pharmacopœia was full enough, ranging from balm and balsam to ptisans and elixirs, with, and for complaints of the passions philters, charms, poisons, and amulets."

Foxglove (in Irish known as *Lusmore*, i.e., the great leaf), called by the peasants "Fairy finger;" used by them in "spells" for cure of disease.

Again, Rue was called *Rubha*; and Dandelion, from its bitter taste, *Slarbhán*.

Mr. John White, gardener to the Royal Dublin Society

in their gardens at Glasnevin, 1808, published (or intended to do so) a Treatise on the Indigenous Grasses and Plants of Ireland, giving Latin and English names, also their generic and specific names in the *Irish language*, and common Irish names. The work was to contain the primitive use of each plant for 400 years past as recorded in the native language of the country.—(*The Librarian*, 1808).

ART. IX.—*The Treatment of Severe Hæmorrhage by the Infusion of normal Saline Solution, as practised in the Rotunda Hospital.* By JOHN H. GLENN, M.D.; Ex-Senior Assistant Master, Rotunda Hospital.

IT is my privilege, through the courtesy of Dr. Smyly, Master of the Rotunda Hospital, to bring before you some cases illustrating the treatment of severe hæmorrhage by the infusion of normal saline solution.

During my four years' residence I had the opportunity of seeing four out of the five methods usually employed, namely:—

1. Munchmeyer's intra-connective-tissue injection.
2. Ponfick's intra-peritoneal infusion.
3. Rectal injection.
4. Intra-venous infusion.
5. Intra-arterial infusion (*a*) centripetal (*b*) centrifugal.

The latter method I have not seen.

Munchmeyer's method is, I think, the least useful, but the massage, which is part of the technique, is most important, especially when applied to the abdominal walls, as the large reserve of blood held by the abdominal veins is thus encouraged to flow towards the heart. Intra-peritoneal infusion was employed in several laparotomies, leaving three or four pints of saline solution (1 drachm to 1 pint) in the peritoneal cavity with markedly good results; the patients suffered from exceedingly slight shock, considering their loss of blood, and rapidly recovered; great thirst was a noticeable feature, but the cases, taken as a whole, were so favourable that I certainly

* Read before the Obstetrical Section of the Royal Academy of Medicine in Ireland, March 29, 1895.

would employ it should I meet with similar indications, and this notwithstanding my firm adherence to the dry method.

We have not employed direct injection with the special curved syringe, as the danger of wounding the under-lying intestine is too great, though the likelihood of peritonitis following has without doubt been exaggerated.

Rectal injection has its principal advantage in that it can be employed at the will of the operator any time during an operation; that absorption takes place even during profound narcosis may be inferred from our experience of ether administered per rectum.

These methods, though useful, have in no degree the value of the two following—*intra-venous* and *intra-arterial* infusion—at least so far as the immediate treatment of profuse hemorrhage is concerned.

Theoretically, transfusion of blood is the best method; statistics have on the whole been favourable, for in a total of 243 cases 46.9 per cent. terminated in complete recovery, and 14 per cent. were followed by temporary benefit. Of course an accurate sifting of these is quite impracticable, as it would be impossible to estimate the probable duration of life, supposing transfusion had not been employed. I merely quote these because of the prevalent opinion that transfusion of blood was a failure, whereas the very contrary was the case, but the difficulties attending its performance led to its general abandonment, except in hospitals. Whether infusion of arterial blood will prove better than the *intravenous* infusion of normal saline solution must be left to the future. We know that blood excels saline fluid on nutritive grounds, but the dynamic effect of the operation being that generally required to restore suspended animation, saline fluid will usually be found sufficient. Of late years the advocates of normal saline solution go so far as to state that infusion of blood is absolutely harmful.

In the lectures delivered in the Royal College of Surgeons, England, in 1889, on *Transfusion*, William Hunter deals at length, both from an experimental and physiological point of view, with the dangers of, and objections to, transfusion of blood, whether by the direct method or after defibrination, or after admixture with phosphate of sodium according to the

method of Braxton Hicks. He sums up thus—"Any advantages that transfusion of red corpuscles may have over simple saline injections are counter-balanced by the dangers attending the simultaneous injection of the white. In the case of defibrinated blood, the latter so preponderate that transfusion of defibrinated blood is an operation not only dangerous in itself, but one whose practical value by no means serves to compensate the additional risks run in carrying it out."

This method was first suggested in England by Sir Spencer Wells. Landerer and Bischoff in Germany; Jennings, Arbuthnot Lane, and Herbert Spencer in England were its pioneers.

Goltz first showed that death from hæmorrhage lies in loss of fluid and incomplete filling of heart, not the loss of corpuscles or hæmoglobin, and that as long as the blood can be kept moving by injection of fluid life can be saved.

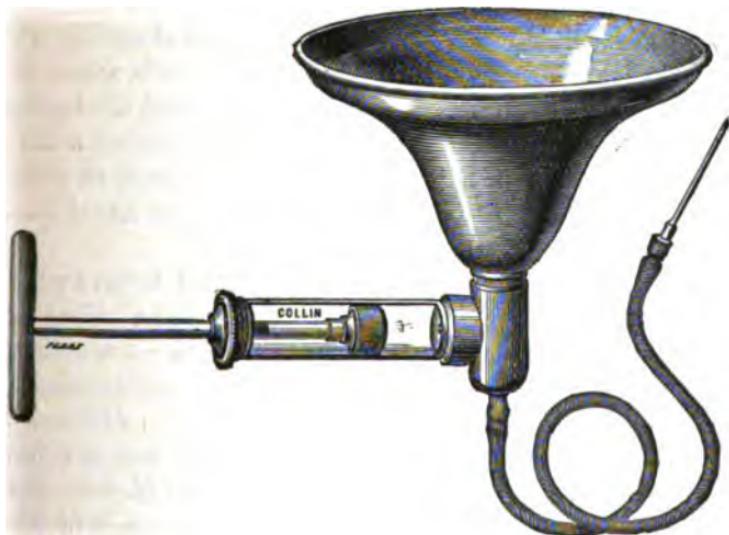
For years this method has been well known to experimental pathologists and workers in physiology, and it has been a constant practice to thus resuscitate animals exhausted by loss of blood, but only since 1881 has it been successfully applied to man. I purposely exclude the well-known experiments on cholera patients in 1848.

Technique.—In the following cases I employed the transfusion apparatus made by Collin, of Paris (Fig. 1), and found it admirable and easy to work. At the same time I feel the strong point of this method lies in the extreme simplicity of the whole proceeding, requiring no special complicated apparatus (which is probably out of order when required), but merely one which can be extemporised in any house, however remote from instrument makers—a clean jug, a piece of India-rubber tubing and a cannula (a watch-key will answer admirably) are all that one requires. The skin over the bend of the elbow having been carefully washed with hot water and soap, is disinfected with alcohol and corrosive sublimate, a turn of bandage is put on above the elbow to render the veins more prominent, an incision one inch or more in length is made along the course of the median-basilic or median-cephalic vein—preferably the former as it is usually larger, and though it lies over the brachial artery it is separated from it by the semi-lunar fascia of the biceps. The vein is dissected up for

half an inch, and a double ligature passed beneath; the loop is cut, and the lower or distal ligature tied. A single knot is now tied on the proximal ligature, and the apparatus being ready a transverse cut is made in the vein, the cannula inserted and the upper ligature tightened upon it. The cannula should have a groove upon it to prevent slipping. After the infusion the cannula is withdrawn, the ligature tightened, a second knot applied, the vein cut between the two ligatures, and an aseptic pad put over the wound. It is a question of opinion whether it is advisable to ligate the vein or not; in my cases we did so.

Fig. 1.

TRANSFUSION DU SANG.



Transfuseur du sang *de Collin*, avec lequel il est impossible d'injecter de l'air dans les veines.—Un flotteur plus léger que le sang et plus lourd que l'air reste au-dessus du tube de dépense et s'oppose au passage de l'air, qui s'échappe toujours, quoi qu'on fasse, par l'orifice supérieur.—La manœuvre consiste à tirer et pousser le piston doucement. Le tube de cristal contient 10 gr. de sang.

Several important questions now arise:—What should the rate of injection be? Panum gives three ounces per minute as the maximum to inject; *slowly and regularly* is generally the most important matter in the operation. The dangers

of neglecting this very important point are—over-filling of the heart, sanguineous œdema of the lungs, hæmorrhagic exudations into the intestines, injections of the capillaries—especially of the intestinal mucous membrane, and more rarely those of the stomach—fever, shiverings. These complications are explained by the effect of the alternate weakening or paralysis of the heart, and its vigorous action after the infusions.

What should the temperature of the saline solution be? About $102\cdot2^{\circ}$ as it is put into the apparatus; this allows for cooling down to blood-heat in passing through.

As regards the quantity to be injected each individual case has its own requirements; certainly we ought to go on until a slowing of the pulse with an increase of volume is noticeable. I shall only remind you that an increase of blood to the extent of *four-fifths of the normal amount* can be borne without injury to the individual into whom it is injected; later writers favour large quantities. Horrocks used two to six pints, Herbert Spencer a pint and a half to two pints, Bernard Pitts two to eight or ten pints, while in our cases eight was the maximum. Alcohol added has no advantage.

Arterial infusion is in its infancy, but I believe will yet become a recognised operation in severe cases. That fatal cases have occurred during venous infusion is undoubtedly true, though to no serious extent. These Landois explains in the following manner:—"After a severe loss of blood the circulation is slowed, the difference in pressure between arteries and veins becomes smaller. In the highest degree of anæmia only tiny, slowly circulating streams of blood passing through its capillaries keep up the excitability of the medulla oblongata. If a larger quantity of blood is conducted in a short time through a vein, then there occurs first of all, along with increase of pressure, a stasis of blood in the large venous trunks, and feebly acting right side of the heart. Thus, though it be but for a few seconds, a further interruption of the circulation may take place in the medulla oblongata, which, with the already extremely limited nutrition of this organ, may be enough to entirely stop its function." In these circumstances Landois recommends

arterial, and especially centripetal arterial, infusion first advocated by Hueter.

The radial artery is selected, the cannula directed towards the aorta; *on infusing the valves close*. The blood at the commencement of the aorta being thus placed under high pressure escapes into the side branches, and flows through the carotids and subclavians to the medulla oblongata, to which it brings immediate help. In order that blood may not press into the branches of the descending aorta in too great quantity both femorals should be compressed, and moderate pressure applied to the abdomen. This method has certain disadvantages—namely, enfeeblement of cardiac muscle, noticed by diminution of heart's activity during injection, and greater penetrability of the pulmonary vessels; but, on the other hand, when arterial infusion is made *from* the aorta the capillaries act as a perfect filter, at the same time levelling the temperature. If too great a pressure is employed rupture of these delicate vessels ensues, with swelling of the hand and hemorrhage.

The loss of an artery is not worth speaking about, as only in grave cases is the operation justifiable. One other point is worthy of notice—in profoundly anaemic fat patients it is difficult to find a vein suitable—a case in point my friend and colleague, Dr. Tweedy, and myself met with. I now regret not having opened the radial artery.

I therefore sum up by thinking that one or other of these methods should be employed in cases of severe haemorrhage, which must be decided by the special case. I would especially sound a note of warning against being in a hurry to employ it in *post partum* haemorrhage; but in cases where bleeding points have been secured I believe we have a method which will save many lives in days to come.

CASE I.—M. M'C., aged thirty-nine. Primapara. Had been four days in labour before admission. An unsuccessful attempt to deliver with forceps had been made by a practitioner outside; she was admitted in a state of collapse. The pelvis was deformed and the head freely movable above the brim. Cervix was torn and hanging down into the vagina by a narrow pedicle, there was profuse haemorrhage, and her condition so grave, delivery was postponed, the vagina being plugged and every effort made to

stimulate her. During the night the head moulded and passed the brim and no difficulty was experienced delivering her with forceps, a dead child with a fractured skull being extracted; the placenta was adherent, and was removed by hand, the patient was in a very exsanguine condition, and *five pints* of saline solution were infused into the right median-cephalic vein; after a pint the pulse could be faintly felt, and when it became sufficiently full the infusion was discontinued, the colour also returned to her cheeks, and we had hopes of her recovery, but to our disappointment five hours after she sank and died. With our further experience we should now infuse a second time on seeing symptoms of collapse setting in.

CASE II.—Miss B., aged thirty-eight, admitted to the Auxiliary August 7, 1893. Operation, September 12, 1893. Total hysterectomy by the combined method was performed by Dr. Smyly. The operation was rendered especially difficult by numerous adhesions to the omentum and intestines, and she lost much blood, was collapsed and pulseless. *Four pints* of saline solution were infused, and she made a good recovery, rapidly gaining strength. The only feature here I would call attention to was the increased urinary secretion which I remarked in several of the other cases.

CASE III.—L. M'G., aged twenty-six. Symphysiotomy. Operation is described in the Society's Transactions for this year. She suffered from traumatic *post partum* hæmorrhage. *Eight pints* of saline solution were infused, and she rallied well. The temperature rose on the fourth day. A puerperal ulcer developed, involving the whole vagina, and she died on the twelfth day. I think I may fairly claim this as a success, so far as infusion is concerned.

CASE IV.—Mrs. H., aged thirty. Ovarian tumour. Operation, September 28, 1893. The operation was one of considerable difficulty—dense adhesions, general oozing, slipping of one of the ligatures with retraction of the ovarian artery, and the formation of a haematoma behind the peritoneum; this was treated, but great loss of blood took place before all was secured. Patient was re-opened for fresh hæmorrhage and flushed out with hot water; the bleeding ceased, and a drainage tube was put in; patient was very collapsed, with a thready pulse of 136. *Seven pints* of saline solution were infused, and the pulse fell to 114, with better volume, while her aspect improved. She complained of great thirst. From this on she made a good recovery.

CASE V.—E. M'N., aged forty-three (?) Large fibro-cystic tumour. Dense adhesions to intestines, especially on the right, rendering the tumour immovable; after separating the adhesions, which bled freely, the tumour was removed, and all bleeding points secured, this not before much blood had been lost. *Seven pints* were now infused. She made a good recovery.

CASE VI.—A. C., aged thirty-three. Double hydrosalpinx. Operation, December 28, 1893. Both tubes burst, adhesions were exceedingly dense, right broad ligament was tied in five places, the left in seven, patient greatly shocked, and was infused with saline fluid. She lived for five days after.

CASE VII.—This was a patient in the last stage of septicæmia. Believing an empirical trial to be permissible, we infused her with three pints, but I regret to say with no success.

Landois has collected 29 cases where fever-free blood was injected into septicæmic or pyæmic patients—24 unfavourable, 1 doubtful, 4 favourable.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

We are requested to announce that the "American Electro-Therapeutic Association" will hold its Fifth Annual Meeting at the College of Physicians and Surgeons of Ontario, in Toronto, on Tuesday, Wednesday and Thursday, September 3rd, 4th, and 5th, 1895. Dr. A. Laphorn Smith, President; Dr. Emil Heuel, Secretary, 352 Willis Avenue, New York City, U.S.A.

DIABETIC DIET.

HEINRICH STERN, M.D., considers (*Medical News*, Philadelphia, LXVI, 23) that the tubercles on the roots of the pea-nut (*Arachis Lypogz*, also known as the earth-nut, or ground-nut), when deprived of their oil, form a meal which is a first-rate food in diabetes; it has the further advantage of being very cheap. The author concludes:—"If we accept the theories advanced by modern investigators in the dietetic treatment of diabetes mellitus, that a suitable and wholesome diabetic food must be easily digestible, abundant in fatty and nitrogenous, and deficient in saccharine and starchy substances, we have to consider pea-nut flour a rational and logical food-stuff."

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Lumleian Lectures on certain Points in the Aetiology of Disease, delivered before the Royal College of Physicians, 1892, to which is added the Harveian Oration delivered before the College in 1893, with a Biographical Notice of Harvey, and an Appendix of Statistical Tables. By P. H. PYE-SMITH, M.D. London: J. & A. Churchill. 1895. Pp. 236.

These Lumleian Lectures are in many respects a notable work. They abound in suggestive ideas and in the display of the fallacy of many of our most cherished delusions. The whole is written in a lively, attractive style, very characteristic of the author.

In the first lecture it is shown that disease is not to be looked on as something altogether unnatural or foreign to us, but is to be considered as the "necessary, inevitable result of the construction and working of the body." The great importance of a study of ætiology is pointed out, and the merit of those like Lister, Pasteur, and Jenner, who by such a study have taught us how to prevent disease, is placed far above that of the men who, by discovery of drugs, have shown us how to combat it.

The *external* agents which can cause disease in our bodies are similar to those which can derange the functions of a single cell. They are mechanical causes, chemical causes, poisons, heat or cold (here we find some interesting and suggestive pages on "catching cold"), and parasites, animal or vegetable.

Of the *internal* causes of disease, one of the most remarkable is disturbance of one or more of the bodily functions, which are at first merely functional, and do not pass the limits of normal physiology, but which by repetition tend to become persistent.

It is pointed out that many acute diseases begin chronically, or are grafted on slowly-developed abnormal conditions.

In the sections on Diatheses and Dyscrasias, as in that on old age, many valuable observations will be found. "Loss of memory appears to be the only mental symptom which is constant after a certain age." Overwork as a cause of disease is denied, and worry is commonly only ill-temper. The commonly-held idea that the present time is fuller than any other of worry and excitement is vigorously protested against, as is the statement that nervous diseases and cancer are consequently on the increase. "It is said that the 'neurotic temperament,' or 'type,' or 'diathesis,' is intolerant of the heroic means of combating diseases which were well borne by such dull-witted fellows as Steele or Johnson, by the comfortable, prosaic, easy-living men who saw the mutiny of the Nore and Napoleon's army gathered to invade England, who mourned for Nelson and for Moore, and exulted in Corunna and Trafalgar." The author's view is that "men in general live a more domestic, healthful, and sober life than a hundred years ago; women are less nervous, and bear and rear larger families; while children, both rich and poor, are certainly better clothed, better fed, and grow up into taller, stronger, and healthier men and women."

In the second lecture, after pointing out the numerous fallacies which beset the statistical method of inquiry, the author considers the influence of such factors as sex, age, race, climate, seasons, and occupation as causes of disease.

The third lecture deals with special aetiology, and abounds with valuable statements, the results of the critical judgment and large observation of the author. These are supplemented and supported by the important statistical tables given in the Appendix.

In his eloquent Harveian Oration Dr. Pye-Smith considers, firstly, Harvey's great discovery of the circulation; secondly, his works on generation; and thirdly, a phase of his intellectual work, of which, unfortunately, the records have perished, and which has not, perhaps, been duly appreciated. "What I believe Harvey contributed, or would but for adverse fate have contributed, to medicine as distinct from physiology, was a systematic study of *Morbid Anatomy*."

The lecturer, finally, in accordance with the instructions of the founder, exhorts his hearers (1) to emulate the great Harvey in investigations by experiment, whether in pathology or physiology, (2) to cultivate learning, and (3) to continue in mutual love and affection among themselves.

Dr. Pye-Smith's learned and appreciative article on Harvey's life and works, written for the *Encyclopædia Britannica*, is reprinted and forms a valuable addition to the Oration.

Colour Vision: being the Tyndall Lectures delivered in 1894 at the Royal Institution. By CAPT. W. DE W. ABNEY, C.B., D.C.L., F.R.S. London: Sampson Low, Marston & Co. 1895. Pp. 231.

THERE are few subjects of greater physiological interest than our sense of colour, and, independently of its great theoretical interest, it has become one of the highest practical importance, since we have got to know the great frequency of defects in this sense, and the serious accidents to ships and railway trains which have resulted from imperfect colour vision. There is probably no one living who is more competent to treat of this subject, whose interest is only equalled by the difficulty, than Captain Abney, whose researches on light and colour are truly classical. The present volume is a most important contribution to science, and claims alike the attention of the physiologist, of the ophthalmologist, and of the general public.

Starting with a description of the structure of the eye, the author next speaks of simple colours and their mixture. To effect this mixture of different spectral colours and their comparison with one another and with white light, a simple but ingenious apparatus is described and figured. In this connection the difficulties caused by the pigment of the yellow spot are considered. This causes colours which match well when seen by the yellow spot to appear very different when their images fall on some peripheral parts of the retina. That all colours can be reduced to these primary sensations is demonstrated, and a good account is given of the Young-Helmholtz and of the Hering theories of colour vision—the latter being taken from Professor Foster's well-

known Text-book of Physiology. Captain Abney shows that when light is very faint we may perceive it as light without any colour, and that "the basis of all colour, be it red, green, or any other colour, is what appears to us to be colourless."

The subjects of colour-blindness, in which one or two of the primary sensations are wanting, furnish the readiest means of investigating the stimulation of the different sensations necessary to produce colour.

A general account is given of cases of colour-blindness—red, green, and the very rare violet-blindness—of which the author has seen only one example. A coloured plate shows the appearance which the spectrum presents to persons suffering from each of these defects in colour vision.

After describing the methods of experimenting by comparing mixtures of spectral colours with white, and by rotating coloured discs, the author introduces another method. "If we throw the whole spectrum on the screen, and ask a person with normal vision to point out the brightest part, he will indicate the yellow, whilst a red-blind will say the green, and so on. This tells us that the various types of colour-blind must see their spectrum colours with luminosity differing from that of the normal eye. The difference can be measured by causing both to express their sense of the brightness of the different parts of the spectrum in terms of white light or of one another." Diagrams of the luminosity curves for normal vision and for the different forms of colour-blindness are given. Very interesting are cases of partial colour-blindness, in which one or more sensation is deadened, so that, for instance, red and green must be combined in different proportions to what is the case in the majority of persons in order to produce the sensation of yellow or orange. These have been described as other forms of normal vision, but by a study of the luminosity curves Captain Abney has been led to look on them as cases of partial colour-blindness.

We must pass over the following chapters on the luminosity of colours to different parts of the retina, the limits of the perception of colour, and the extinction of light from the spectrum in normal and colour-blind eyes, full as they are of most interesting experiments and deductions.

In the next chapter the form of colour-blindness which is

produced by the abuse of tobacco, in which the defect is limited to the central part of the field of vision, is described, and illustrated by a figure of the spectrum as it appears to the subjects of this disease. Owing to the limited part of the retina affected, these persons cannot be examined by such large objects as the usual skein of wool, as the images of these fall on normal parts of the retina. The author uses small coloured brick-clay pellets, which he has found very useful. A number of cases of colour defect due to tobacco-poisoning and to other diseases are described in full, and, besides their own interest, are valuable models of how such examinations should be made.

We have then a full description of Holmgren's test for colour-blindness, and of the author's spectrum test. In some cases a person who has failed in the Holmgren test may not be satisfied of his own defect, and may wish for a further examination. This is best carried out by the spectrum method. It is shown that a malingerer may be "coached" so as to escape detection and to appear colour-blind by Holmgren's method; but he is sure to fail if examined by the spectrum method.

Finally, a comparison of the two rival theories of colour vision is made; and while the author admits that the Young-Helmholtz theory is most attractive to him, he shows that "there are difficulties in adapting it to explain several facts of colour vision which seem to render it, to say the least, incomplete." These difficulties are chiefly connected with the phenomena of what is known as simultaneous contrast. It is shown that the contrast colours are not really complementary of the colour with which they contrast, which makes the difficulty all the greater. There are difficulties also when we consider the feeble luminosities and the colour field-view from a physical standpoint, and in the light of colour-measurement Hering's theory fails in several respects.

The author proposes a modification of the Young theory:—

"Let us suppose that each of the three sensations were compounded of fundamental *light* and of *colour* in fixed and definite proportions, and not in the same proportion in each; and further, that the apparatus in the eye which was responsible for each

sensation had two functions, one of which was to respond to the fundamental light sensation and the other to the colour. One essential difference between this modification of the Young theory and that of Hering is that whilst in the latter the white sensation is a sensation *distinct from the colour sensations*, in the former it is a *definite part of them.*"

The author holds strongly that whatever theory may prove right the cause of vision will be found in chemical action induced by the impact of the different wave-lengths of light falling on sensitive matter. But there is this essential difference between the retina and the photographic plate, that in the former the sensitive material is constantly changing.

In conclusion, we cannot too highly recommend this book to our readers.

La Méthode Brown-Séguard : Traité d'Histothérapie : La Thérapeutique des Tissus : Compendium des Medications par les Extraits d'Organes Animaux. Par le Dr. M. BRA. Ouvrage précédé de Lettres et Préfaces de MM. les Professeurs Constantin Paul, Mendal, Ewald, Bruns, Emminghaus, et Byrom Bramwell. Accompagné de 72 Gravures. Paris : J. Rothschild, Éditeur. 1895.

DR BROWN-SÉQUARD's treatment of senile debility by the injection of testicular extract is the foundation stone of the production of this work by his appreciative pupil, Dr. Bra. The resulting volume is an interesting one, illustrated by many clinical and physiological curiosities; the material is neatly and judiciously arranged; and the information therein contained is conveyed in the style of crystalline clearness, which so well characterises the scientific literature of the French nation. Dr. Brown-Séguard's departure in clinical experimentation was followed, as such waves of progress always are, by the recommendation of the employment of other animal extracts—like healthy juices to effect the cure of diseases of like unhealthy organs. Accordingly, we have the following list supplied by M. Constantin Paul in the preface contributed by him :—

Liquide testiculaire. BROWN-SÉQUARD. Juin, 1889.
Liquide ovarique. RÉGIS. Juin, 1893.
Extrait de la substance grise du cerveau. BABÈS, CONSTANTIN PAUL. Février, 1892.
Suc thyroïdien. PIBENTI, VASSALE, GLNY et MURRAY.
Suc pancréatique. MINKOWSKI, &c.
Suc hépatique. MASSINI, ROUQUÈS. 1893.
Suc rénal. MEYER, DIEULAFOY. 1893.
Suc des capsules surrenales. CHAUFFART. 1894.
Suc musculaire. ROGER. 1893.
Liquide pneumique. DEMONS. 1894.
Suc de la rate. GUSTAVE COUAIN. 1804.
Suc de la moelle des os. DIXON MANN, GOLDSCHMIDER. 1894.
Sérum diphthérique du cheval. BEHRING, ROUX.

The text is divided into thirteen chapters preceded by the letters and prefaces of the well-known authorities mentioned on the title-page, an *Introduction* and *Historique de la Méthode*, and followed by a *Résumé Général*. The feature which we have particularly noticed in the 19 pages devoted to the *Historique* is the fact that the author entirely ignores the use of animal extracts in therapeutics before the memorable epoch at which the late Professor Brown-Séquard attempted to restore his failing vigour by injecting himself with testicular extract. If this ignorance, on the part of Dr. Bra, is real, it betrays a striking want of curiosity or of industry—or both—in his investigation of the general history of therapeutics; if feigned, why—the less said on the subject, we think, the better. But we will supply some items of more venerable gossip on the subject as we glance at the principal headings.

The first chapter deals with organic liquids in general, and gives detailed information on the modes of preparation, conservation, and administration. Of the methods of introduction into the circulation—by the mouth, by the rectum, and through the skin—the first was rejected by Brown-Séquard, as he considered that the action of the gastric juice would prove damaging to the specific properties of the various animal extracts. Strangely enough, however, the gastric administration of thyroid extract, to the value of which the largest mass of undiluted testimony has

hitherto been furnished, appears to be entirely contradictory of this prejudice. With regard to introduction by the rectum, "Brown-Séquard, dès le début, présentait que ce mode d'absorption pouvait être adopté. Il s'injecta, en effet, chaque jour, le liquide de trituration de deux testicules de cobaye dilué dans 50 cent. cubes d'eau destillée, et les effets se montrèrent satisfaisants." Prolonged experience, however, showed that this practice was complicated by the production of some irritation, and even inflammation, of the rectum. The method by hypodermic injection has been finally agreed upon. This was, however, found not to prevent the serious danger of septic poisoning, as the usual antiseptic fluids could not be added to the testicular extract, for fear of spoiling its specific power by chemical change. After much wearisome experimentation, however, the method was chosen of—"Sterilisation par l'acide carbonique liquide, avec ou sans filtration à travers la bougie."

The second chapter bears the title "Médication Orchique or Testiculaire," and occupies pages 39 to 187, inclusive. And very wonderful are the results recorded—senile debility, senile dementia, neurasthenia, hypochondriasis, locomotor ataxy, paralysis—functional and organic—various forms of mental disease, various forms of tuberculosis, cachexias—cancerous, malarious, &c.—anaemia, diabetes, rheumatism, sundry forms of cutaneous disease, and so on, even to the end of the chapter, all were relieved more or less completely. Indeed, Brown-Séquard's own "enumération des affections dont les symptômes ont été combattus avec succès par le liquide orchique" is well worthy of quotation:—

"L'artério-sclérose, la sclérose du cœur, les affections rénales liées ou non à la sclérose, les contractions et les paralysies de causes organiques diverses (maladies de l'encephale, de la moelle, des nerfs), la paralysie réflexe, la névrite, les maladies du poumon, y compris même la gangrène (2 cas.); la maladie d'Addison (4 cas.), le goître exophthalmique, les affections organiques du cœur, du foie, de l'estomac, de l'utérus (y compris 2 cas. de tumeur fibreuse), des atrophies et nombre d'autres états organiques morbides, certaines formes de rhumatisme, la goutte, les fièvres paludives paludéennes,

les névralgies, l'agoraphobie, la paralysie pseudo-hypertrophique, l'incontinence d'urine."

Can the reader, after the perusal of this catalogue of results, help feeling some surprise that Professor Brown-Séquard lived but so short a time after its publication. His faith must have been boundless! And his power of belief would seem to have included the idea that he was the actual inventor of what we may take the liberty of calling "Animal Therapeutics"!!! As we write there lies before us a copy of Salmon's "New London Dispensatory," the preface of which bears the date of March 2, 1676. The second book of this volume bears the title, "Zoologia of Animals: their Preparation, Virtues, and Uses." We will give some few quotations therefrom. Under the heading of MAN we find the following paragraph:—"Sperma, Semen, the Seed. Of this Paracelsus makes his *homunculus* or little man. Experience has found it good against Witchcraft and the imbecility of the Instruments of Generation. And some use it to make a Magnetic Mummy of, to serve as a *Philtron* to cause Love." The mode of administration is not described. Under the heading "Aper, the Boar or Wild Boar," we find, "the Stones and Pizzle dried and given in powder, 3i at a time, helps weakness of the Genitals and Barrenness." Under the heading "Bos Vacca, an Ox or Cow: the Pizzle, if it be from a Red Bull (another for aught I know may serve) the Powder of it heals the Dysentery; the ashes of the Spermatick Vessels, and Stones stop bleeding; and *Forestus* says it is the remedy the Jews use after Circumcision." Under "Canis, a Dog or Bitch: the Genitals of a Dog are used as an Amulet by Magitians to provoke Lust." Under "Castor, the Otter or Beaver: the Stones—they are called *Castoreum*—being cut out, well cleansed and dried and kept in the shade, they will keep seven years. *Castoreum* is hot in 3°, dry in 2°, of wonderful force against Fits of the Mother, Oppression of Wind, the Cholick, Vertigo, Megrim, Epilepsie, Palsie, Apoplexy, Trembling, Palpitation of the Heart, Carus, Lethargy, Obstructions of Head, Nerves, and Womb; it revives and quickens the Spirits, attenuates, opens, discusses, strengthens, resists

Poison, provokes Urine and the Terms; put into the Ear, it cures Deafness and the Tooth-ach, especially if held in the mouth also; applyed with Honey it is a *Psilothron*, the hairs being first pulled away; in fits, apply it to the Nose, or bind it under the Arm-hole, or to the Navel; or take the Oil, Tincture, or Extract of it inwardly." Under "*Cervus*, a Hart, Deer, or Buck: *the Stones* dried and drunk in Wine, they excite Lust *The Pizzle* powdered or made into a Gelly, and given in Wine, is good against the bitings of Serpents, provokes Urine, stirs up Lust, cures the bloody Flux and the Cholick; the Ashes help the *Disury*." Under "*Equus, Caballus*, a Horse or Mare: the Testicles in powder excite Venery, and expel the after-birth." Under "*Hippopotamos*, a Sea-Horse: the Testicles dried are good against the bitings of Serpents." Under "*Lutra*, Otter, a kind of Beaver: *the Testicles* cure the Epilepsie, and Fits of the Mother and have the Vertues of *Castoreum*." Under "*Lepus*, a Hare: *the Testicles* in powder cure the Diabetes and pissing abed, strengthens the Bladder and helps Conception." Under "*Mustela*, a Weasle: *the Genitals* help the strangury. *The Testicles* and *Womb* are good against the Lethargy and Epilepsie, being but smelt to." Under "*Sus*, a Swine: *The Testicles of a boar* given in powder with the Milk of a Sow, helps the Epilepsie, and causeth Conception." Under "*Taxus*, a Badger: *the Testicles* in powder eaten with Honey, stir up Lust, and cause Conception." Under "*Vulpes*, a Fox: *the Testicles* taken by a Woman, cause Conception." Passing to the next chapter "*of Birds*," we have additional items of corresponding therapeutic interest. Under the heading of "*Aquila*, an Eagle," we find, "*the Testicles* cause Venery." Under "*Buteo*, the Buzzard: *the Testicles* help the weakness of Generation." Under "*Gallus, Gallina*, the Cock and Hen: *the Testicles* stir up Lust, cause Fruitfulness, and helps Feavers." Under "*Grus*, a Crane: *the Testicles*, with *Sal Gem*, froth of the Sea, and Sugar, helps white spots in the Eyes." Under "*Milvus*, the Kite: *the Testicles* in powder, and drunk fasting, cause Fruitfulness." And we find pharmacopœial ingredients from reptiles, fishes, and even insects, which are said to contribute their quantum of efficacy in helping out the recuperation of sexual and other

forms of failing vigour. More evidence need not be adduced to prove that the therapeutical virtues of certain animal tissues and juices is by no means a *fin-de-siècle* discovery. The idea is as old as medical literature. None were invented by the compiler of the *New London Dispensatory*—a good many of the items of his armamentarium were gleaned from the writings of Hippocrates, Dioscorides, Galen, and other of the most venerable fathers of medical lore. *Suc pancréatique*, *suc thyroïdien*, and *serum diphtheritique*, are the only extracts which could pretend to be new to the writer of this volume; and very, very many other organic juices are here recommended which have received no attention from the author of the present *Compendium des Médications par les Extraits d'Organes Animaux*." The details of preparation may be more scientifically carried out, and the methods of administration regulated with greater mathematical accuracy, but that there is anything new in the idea——alas for this hysterical modern straining after notoriety!

Most of the remaining chapters of Dr. Bra's work are short as compared with that devoted to testicular therapeutics; and the results therein recorded seldom appear so far reaching, or so well calculated to appeal to the emotions of a susceptible reader. Chapter V., which is devoted to *Médication thyroïdiennæ*, is the exception; being of almost exactly the same bulk as the orchitic one. The therapeutic record of thyroid extract is now known to be a very full one; a large number of cases are here collected—chiefly, of course, of myxoedema. There are also cases of cretinism, exophthalmic goitre, and some dermatoses; with a spicing of acromegaly, obesity, and malignant syphilis thrown in towards the end of the chapter. Many of the cases have been gathered from the journals of these countries, where we are more familiar with thyroid than with testicular therapeutics. The collective record appears, as already noted, to be more favourable in the case of thyroid than in that of any of the other animal extracts. But its range of application is so limited compared with that which Brown-Séquard and his disciples would allot to the operation of the orchitic elixir!! The general theory underlying the whole of this *new (?)* system of therapeutics, of course, is that, as every organ and tissue possesses a selective

power by which it takes up the special materials suited for its own nutrition from the general circulation, the failure of any particular organ can be most easily and efficiently repaired by introducing those special elements, so as to have them readily available. Superimposed upon the broad basis of this idea came the neuropathic-sexual-emotional element (which so largely figures in the thoughts and actions of our Gallic neighbours) to give the initial impetus to the modern revival as carried out by Dr. Brown-Séquard. In a paper published by this distinguished physiologist, after bringing his special elixir into prominence, we remember his recommendation, as the best preparation for the carrying out of any high-class intellectual work, *the stimulation of the sexual organs to a point just short of seminal emission.* We believe that this is rather a *national* than an *individual* idea. But there appears to be no limit to the riot to which human tastes and passions may run when allowed to "run to seed." It was truly said by the cynical Yankee philosopher that the mind of man is like a vine, which, if not properly "trained" in its growth "will run into all sorts of twistifiedness." More than one philosophic politician has been found to defend, in print, the thesis that "killing is no murder. The present age of *degeneration* (consult Max Nordau) and of *psychopathia sexualis* (consult Krafft-Ebing) seems in some of its vagaries to bid fair to compete with the moral gymnastics of the Canaanitish contemporaries of Joshua. And one of its most characteristic scientific excrescences, according to our humble opinion, is the *rejuvenation*—we cannot truly call it the *invention*—of the now so-called "Brown-Séquard" treatment of senile debility.

On the Relation of Diseases of the Spinal Cord to the Distribution and Lesions of the Spinal Blood-vessels. By R. T. WILLIAMSON, M.D. London: H. K. Lewis. 1895. Pp. 43.

THIS valuable monograph is mainly a reprint of papers which have been published in the *Medical Chronicle*.

After pointing out how frequently so-called diseases of the brain and cord are really not primarily diseases of the

nervous elements, but begin in the blood-vessels or connective tissue, the author proceeds to give a short but exceedingly clear and good account of the **vascular supply of the spinal cord**.

He then considers a large number of diseases, and shows that the localisation of the lesions in each case is determined by the distribution of the vessels. The details of the microscopical examination of a large number of diseased cords are given in support of the author's views, and the text is throughout illustrated by very demonstrative drawings.

The paper is one of great interest, and gives the result of much conscientious and painstaking work.

The Truth about Vaccination: being a Report on Vaccination as a Branch of Preventive Medicine. By ERNEST HART, D.C.L., Editor of the *British Medical Journal*, Chairman of the Parliamentary Bills Committee of the British Medical Association, Chairman of the National Health Society. Second Edition. London: Smith, Elder & Co. 1895. Pp. 59.

THIS pamphlet from the trenchant pen of Mr. Ernest Hart should be in the hands of every member of the Profession and of every Public Health official. In no other publication of the same size will be found so large a mass of condensed information respecting vaccination and its marvellous controlling influence over the prevalence of small-pox.

In the preface to his little book the author states—"I hesitated to reprint it in its original form, because the march of events has brought about the adoption of vaccination from the calf, and other official steps which I advocated and initiated. Subsequently the institution of a Royal Commission on Vaccination, and the considerable amount of evidence given before them in the course of their five years' sitting, added a great mass of fresh data which required analysing." Mr. Hart has now at last completed the somewhat laborious task of analysing all available facts up to date, and has condensed them within the very moderate limits of less than 60 pages of print.

The booklet begins with a very full and convenient index to its contents. The author then draws attention to the growing neglect of vaccination in the early years of life—"a serious menace to the future health of the community, which must ere long be strongly grappled with." "Vaccination," he adds, "has now for nearly a century stood the test of practice, and to-day it remains one of the greatest medical prophylactics which the world has ever known." A graphic account of the loathsomeness of small-pox in its natural state follows, and the ravages which it has wrought in past times are painted in lurid but true colours.

Mr. Hart entertains very little doubt that human small-pox and cow-pox are derived from one and the same infection, though there are differences in their effects. Which is the ancestor of the other remains a moot point, but the most recent scientific investigations—such as those of E. Klein in London and of Simpson at Calcutta—go to strengthen Jenner's opinion that small-pox and cow-pox are identical.

The greater part of the pamphlet is devoted to the lessons taught by recent outbreaks of small-pox in a large number of English towns, particularly Sheffield, Leicester, Warrington, Birmingham, Halifax, and Oldham. The immunity enjoyed by revaccinated physicians, nurses, and officials generally in small-pox hospitals is illustrated at pages 40-44. "What is efficient vaccination?" is a question which receives an answer in a series of tables on pages 45-48 inclusive. The mitigation of small-pox by vaccination, sanitation in relation to the disease, an answer to the objections alleged by the anti-vaccination party to the division of a population into "vaccinated" and "unvaccinated," a reference to Keller's "celebrated" statistics, and a statement as to the risks of vaccination are the other topics discussed by Mr. Hart. In conclusion, the author claims, and justly, to have shown "the overwhelming nature of the evidence in favour of vaccination, and the comparative thinness, as well as the frequent untrustworthiness and exaggeration, of the arguments on the other side." Upon the Legislature Mr. Hart would

urge that re-vaccination, as well as primary vaccination, should be made compulsory, as in Germany. He would strongly advise medical practitioners not to vaccinate in any case except in the most efficient manner. "If these suggestions were acted upon, vaccination would soon be completely vindicated."

Trattato di Patologia e Terapia Chirurgica, Generale e Speciale, Opera illustrata da circa 500 figure originali intercalate nel testo e da tavole litografiche. Prof. FRANCESCO DURANTE, Direttore della Clinica Chirurgica della R. Università di Roma. Vol. I. Roma: Società Editrice Dante Alighieri. 1895. Pp. 208.

THIS promises to be a most elaborate treatise on surgical pathology and therapeutics. The opening volume contains five chapters—on inflammation and its results, on surgical fevers, on lesions of violence (contusions, contused wounds, wounds lacerated and contused, punctured wounds, incised, burns and frostbites), on the process of the cicatrisation of wounds, and on complications of wounds. A sixth chapter, on tumours in general, is begun. Therapeutics occupy but a small part of the work, so far; but the pathology is minute, omitting nothing of interest or value. The paper and printing are most excellent, and the illustrations beautiful.

The Practitioner, a Journal of Practical Medicine. Edited by MALCOLM MORRIS. Cassell & Company, Limited, London, Paris, and Melbourne. 1895. 8vo. Pp. 592.

WE congratulate the talented editor on the excellence of the contents of the first volume of the *Practitioner* which has been published under his auspices. He has entirely succeeded in maintaining the reputation so long enjoyed by this well-known "Journal of Practical Medicine," and it is clear that a prosperous future awaits his editorial efforts.

When, in January of the present year, the first number of the revised issue of the *Practitioner* appeared, our con-

servative souls were sorely troubled by the radical nature of the changes introduced by Mr. Malcolm Morris. But the result justifies his daring, and we have become fully reconciled to those changes, which seem to have been all for the better. Each monthly number now includes original communications, an entertaining and instructive medical *causerie* under the heading of "The Month," a section on "Public Health," a medico-literary *causerie*, reviews of books, numerous and full abstracts from foreign medical journals, and a series of practical notes, including many valuable prescriptions for diverse maladies and including diverse drugs. But why does the editor persist in Latinising antipyrin into "antipirina?" The *Practitioner* is now one of the cheapest and best of the medical periodicals at home or abroad. The editor writes *currente calamo*, but always to the point.

Clinical Lectures on the Prevention of Consumption. Delivered at Westminster Hospital, by WILLIAM MURRELL, M.D., F.R.C.P. London: Baillière, Tindall & Cox. 1895. Pp. 103.

THIS is an admirable little book, calculated to do much good, not only among medical men, but also, and even to a greater extent, among the general public. In fact, we should like to see this book in every public library, and in those of all clergymen and others who have any influence over the minds and lives of men.

Dr. Murrell is a strong believer in the contagiousness of phthisis; he brings forward several striking examples to prove this; he also shows clearly the effect of bad air, want of sunlight, hereditary influence, dampness, &c., in promoting the disease. All this is put into clear and easily understood language, so that he that runneth may understand. A careful perusal of the work will enable anyone to know clearly how consumption is spread, and therefore how it may best be avoided.

The book ends with a number of practical points which contain briefly the conclusions which Dr. Murrell arrives at. He truly says: "If any serious attempt is to be made

to lessen the mortality from consumption, there must be both combined or legislative action and personal effort." The views he puts forward are thoroughly sound, and, if carried out, would undoubtedly do much to lessen the amount of sickness and misery in the land. Our only fear is that a great part of the nation is not yet sufficiently educated to carry them into practice. For example, the world generally seems utterly ignorant of the truth of the following statement: "If consumptive people must marry, they should, at all events, take reasonable precautions and not bring into the world a crowd of children who can be nothing but a source of trouble or anxiety to their parents, and a misery to themselves."

A New Method of Inhalation for the Treatment of Diseases of the Lungs. By W. H. SPENCER, M.A., M.D., Cantab.; Consulting Physician to the Bristol Royal Infirmary. London : The Scientific Press, Ltd. 1895. Pp. 54.

AFTER calling attention to the unsatisfactory nature of the ordinary methods of inhalation by means of steam or atomised fluids, Dr. Spencer describes his plan. It consists of a small water bath, provided with a lamp that will burn for a number of hours without needing attention. The heat of the water, which is indicated by a thermometer, can be easily regulated. In the vessel heated by the water bath some volatile oil, such as terebene or eucalyptus oil, is placed, and, the apparatus being heated, a large quantity of vapour is given off. Dr. Spencer mentions an ounce and a half of terebene as having been evaporated in two hours. The apparatus is kept constantly in the patient's room, so that he is ever inhaling medicated air. That a good deal of volatile substances may in this way be brought into a patient's lungs, and through them into his blood, is shown by the observation that after remaining two hours in an atmosphere impregnated with terebene the patient's urine for ten hours afterwards gave the characteristic odour.

Dr. Spencer says: "This method and its means is no theoretical, no untried suggestion." We much regret that he has given us no particulars of the cases in which he has

tried it. In fact, he makes no reference whatever to any cases in which the method has been used. This omission robs the book of most of its importance.

Indurative Mediastino-Pericarditis. By THOMAS HARRIS, M.D. Lond., F.R.C.P.; Physician to the Manchester Royal Infirmary; Consulting Physician to the Manchester Hospital for Consumption and Diseases of the Throat and Chest; and Lecturer on Diseases of the Respiratory Organs in Owens College. London: Smith, Elder & Co. 1895. Pp. 67.

We were much interested in this work when it first appeared in the pages of the *Medical Chronicle*, and are glad to have it in a permanent form, convenient for reference.

There are three classes of cases of chronic inflammatory conditions in relation to the mediastinum and the pericardium.

Class I. comprises cases where there is an adherent pericardium with marked increase of fibrous tissue in the mediastinum, not infrequently associated with a caseous affection of the lymphatic glands of the mediastinum, and where there is adhesion of the exterior of the pericardium to surrounding parts—a condition which is accurately termed *indurative mediastino-pericarditis*.

Class II. comprises cases of adherent pericardium, with thickening of the sac and adhesion of the exterior of it to surrounding parts (sternum, costal cartilages, and lungs), but with very little and sometimes no mediastinitis—a condition which has been termed *pericarditis externa et interna*.

Class III. comprises those rare cases where there is an increase of fibrous tissue in the mediastinum without any internal pericardial adhesions; to cases of this class the term *chronic mediastinitis* is appropriate.

All these conditions are rare. Dr. Harris has been able to watch the progress of a case of each class, and to obtain a complete *post-mortem* examination. In the first part of his work he very fully describes the symptoms, physical

signs, and *post-mortem* appearances, a good many figures and diagrams being introduced.

He then gives, in tabular form, a brief account of all the cases he has been able to discover in the literature of the subject, amounting to twenty-five in all.

Finally, some of the most marked features of the disease are discussed; and a full bibliography is appended.

The book forms a valuable and complete account of chronic inflammatory conditions of the pericardium and mediastinum.

International Clinics : a Quarterly of Clinical Lectures.

Fourth Series; Volumes III. and IV. Philadelphia : T. B. Lippincott Company. 1894 and 1895. Pp. 369 and 365.

THESE handsome, excellently printed volumes consist, as their predecessors did, of clinical lectures, by American, British, and Continental doctors, on almost every branch of medicine. As might be expected, some are excellent and valuable, while some are exceedingly elementary and hardly worthy of reproduction in a permanent form.

We doubt whether clinical lectures on individual cases are in many instances suitable for being published in a permanent form. In a book which we keep and refer to, we need rather generalisations which are drawn from a number of cases, and which we can apply to cases in our own practice. Some of these lectures, however, are on diseases, not on individual cases, and these form the most valuable portion of the book. We have, however, failed to find much that is new anywhere in these volumes.

Text-book of Diseases of the Kidneys and Urinary Organs.

By PROFESSOR DR. PAUL FÜRBRINGER, Director of the Friedrichshain Hospital, Berlin. Translated by W. H. GILBERT, M.D., Baden-Baden. In Two Volumes. Vol. I London : H. K. Lewis. 1895. Pp. 194.

THIS is a very learned work; it is a book teeming with quotations from a large number of clinical observers. We

have endeavoured to read it, and to learn all that Professor Fürbringer has to say about kidney disease. Unfortunately we have failed to do so. The reason for this is that the translator has failed in his attempt to give us Professor Fürbringer's work in English. His language might be called "English-as-German-is-written;" and this dialect does not lend itself readily to the explanation of the mysteries of Bright's Disease.

Even if the book were translated into perfect English, we do not think it would be as valuable a work on the kidney as are several that have been written by English physicians.

Text-book of Forensic Medicine and Toxicology. By ARTHUR P. LUFF, M.D., B.Sc. Lond. ; Physician in Charge of Out-patients, and Lecturer on Medical Jurisprudence and Toxicology in St. Mary's Hospital ; Examiner in Forensic Medicine in the University of London ; Official Analyst to the Home Office. In Two Volumes. London : Longmans, Green & Co. 1895. Pp. 416 and 360.

THERE are so many points of similarity between the works on Forensic Medicine and Toxicology with which we are acquainted that we are driven to the conclusion that to this subject, in an eminent degree, Horace's dictum is applicable :

“ *Difficile est proprie communia dicere.* ”

There is not much scope for originality. Hence we find books differing mainly in that some are better arranged, more clearly written, and more modern in spirit than others.

When judged in respect to these qualities the book before us deserves high commendation. It is an admirable text-book of the subject, especially for students. We say for students, because Dr. Luff's work belongs rather to the shorter works on the subject, and may be compared with "Guy and Ferrier" rather than with the works of Dixon Mann, Taylor and Stevenson, and Casper. We consider it, however, a first-class students' book ; the main points of a subject are mentioned clearly and emphatically; too much attention is not devoted to rare or abnormal phenomena ; and many comparative tables are introduced wherein points

of similarity or difference may be easily recognised and remembered. We should say it would be a very good book in which to make up the subject for an examination.

The printing and general style of these volumes leave nothing to be desired. A very good feature is the introduction of a number of full-page plates illustrating twelve of the most important poisonous plants. We were particularly pleased also with the accounts of injuries caused by powerful electric currents—a subject now-a-days of much importance, and one which has not received much attention in books on forensic medicine.

While we express our high opinion of the work, we must call attention to a few defects. In the section on *Post-mortem* Lividity (p. 46) we have the astonishing statement: "The anatomical seat of *post-mortem* stains is the congested capillaries in the rete mucosum, just above the papillæ;" and this statement is repeated on page 48, showing that it is not a mere slip. Now, the rete mucosum is another name for the stratum spinosum, and means the deepest layers of the epidermis, in which blood-vessels never exist. The dilated vessels in *post-mortem* stains are, of course, situated under the epidermis in the superficial layers of the cutis or true skin. We are surprised that Dr. Luff has fallen into this error; and it is very remarkable (shall we say, suggestive?) that the same mistake is to be found in the works of Dixon Mann and Tidy.

We read—"The infantile brain putrefies earlier than that of the adult on account of the absence of bony union of the skull-bones of an infant, which permits easy access of air to an organ prone to early decomposition." The brain of infants is very soft, and hence putrefies very quickly; but the scalp is tough, and we believe does not admit the passage of air until after the brain has become quite putrid. At any rate, we believe the rapidity of putrefaction has not much to do with the want of bony covering.

The section on the modes of death (syncope, coma, &c.) is not very satisfactory. There is no mention of death from paralysis of the respiratory centre. Under the head of Death by Want of Heart Power (Asthenia) is included Death in Wasting Diseases; and we are told that one of the

characteristics of death by asthenia is that the senses and intellect are clear and active to the last. This is certainly incorrect. We also do not believe that profuse suppuration can correctly be said to cause death by anæsthesia—i.e., want of blood, but no want of heart-power.

In phosphorus poisoning we believe the fatty degeneration of the liver cells to be due to the direct action of the phosphorus on the cells, and not, as Dr. Luff states, to blocking of the bile capillaries by swelling of the epithelial cells.

That we have disagreed with Dr. Luff on some three or four points in no way diminishes the high opinion we have formed of his work. We can warmly recommend it as a concise, clear, and admirable exposition of Forensic Medicine and Toxicology.

Leprosy: in its Clinical and Pathological Aspects. By DR. G. ARMAUER HANSEN, Inspector-General of Leprosy in Norway, and DR. CARL LOOFT, formerly Assistant Physician to the Lungegaard Hospital. Translated by NORMAN WALKER, M.D., F.R.C.P. Ed., Assistant Physician for Dermatology, Edinburgh Royal Infirmary. With numerous photographs and coloured plates. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. Hirschfeld Bros., 82 High Holborn. 1895.

ENGLISH readers will welcome this little book, as it gives them, in an accessible form, the experience in leprosy of men who have laboured long in the study of that disease. Hansen, as is well known, has, for upwards of twenty years, made leprosy his special study, and to him the discovery of the lepra bacillus is due (in 1871).

The authors commence with a criticism of the nomenclature of leprosy, given by Danielssen and Boeck in their pioneer work. These two observers described three forms—the nodular, the anæsthetic, and the mixed. Hansen and Loft would substitute for anæsthetic the term "maculanoæsthetic," as in this form a macular eruption on the skin is present in some part of its course. We think the change of term a desirable one, as it includes the two most striking

symptoms. They delete the "mixed form" for the reasons that the nodular form may pass into the anæsthetic, and the anæsthetic into the nodular; that every case of nodular leprosy is accompanied by affection of the nerves and anæsthesia; that the natural termination of every case of nodular leprosy is to pass into the anæsthetic form, if only the patient live long enough; and that in both the nodular and maculo-anæsthetic forms the skin eruptions are characterised by the presence of the leprosy bacillus.

Hansen and Looft have never seen leprosy on the scalp, glans penis, palms, and soles, and they appear to doubt if cases described by other observers as leprosy, in which the palms of the hand were affected, were cases of leprosy at all. They have never seen leprosy of the lungs. They regard the eruptions which occur from time to time in the nodular form to be auto-infections, in which bacilli (or poison) from the older lepromata pass into the blood, and thus new areas of the skin or other organs are affected. They have found in many sections of the blood-vessels in a testicle and in a liver white blood corpuscles filled with bacilli, and in both cases only slight affection of the organ, and they also observed many bacilli in the endothelium of the vessels. From these observations they conclude that these two organs had been infected through the blood.

They have made many examinations of the blood of leprous patients, and have never noticed any special change.

They discuss the relationship between leprosy and tuberculosis, and give two instructive tables at the end of their work, which show the frequency of the complication of tuberculosis with leprosy in sixty-nine cases of nodular and thirty-six cases of maculo-anæsthetic leprosy; these tables also show, among other things, the condition of the liver, spleen, and kidney in each case. It will be observed that in the maculo-anæsthetic form tuberculosis is much less frequent than in the nodular form. They attribute the frequent combination of the two diseases in the Norwegian Institutions to the great overcrowding and insanitary conditions to which the leprous patients were formerly subjected. Tuberculosis once introduced, a ready explanation was found in the bad habits of the patients in regard to expectoration

why it was difficult or impossible to root it out. They state that in later years, when the institutions are no longer full and the sanitary conditions consequently much improved, tuberculosis has much decreased.

They lay much stress upon the examination of the glands leading from the affected parts in the diagnosis of leprosy from tuberculosis. The glands in leprosy contain the lepra bacilli, and never caseate. They write, "We conclude from the fact that we have never seen a leprous bronchial and mesenteric gland that there is no leprous affection of the lungs or of the intestine." A foot-note, however, modifies this assertion somewhat, as in this note they state that after the manuscript of their treatise was completed they obtained, at an autopsy, a lung in which there was tuberculosis, but, at the same time, probably, leprosy also.

The distinction between lepra bacilli and tubercle bacilli is clearly set forth. The lepra bacilli are found in large quantities in masses and clumps, while tubercle bacilli are usually arranged singly. Again, one finds almost always among tubercle bacilli some which are pretty long and somewhat bent; this is never the case among lepra bacilli. In the products of lepra bacilli (or their toxin) giant cells are never found, and never caseation. The absence of caseation they attribute to the vascularity of the lepra products. They state that there are in the lepromata multinuclear cells, but never giant cells, like those of tubercle. If one finds giant cells he is dealing, they assert, with tuberculosis and not with leprosy. They cannot decide the question as to whether the lepra bacilli are mobile or not, as they know no absolutely trustworthy distinction between molecular movement and independent movement of the bacilli. They find that when water is added to a fresh preparation of a leprous nodule the bacilli move actively; but in favour of this movement being a molecular one is the fact that the movements are equally vigorous in strong osmic acid solution as in water, and, on the addition of glycerine or strong solution of albumen to the preparations, the movements cease.

With regard to the position of the lepra bacilli, they oppose Unna's view that the bacilli are extra-cellular and in the lymph spaces. They find the bacilli within the cells.

The cells which contain them are chiefly leucocytes which have escaped from the vessels. Occasionally bacilli are found in fixed connective tissue cells, and, exceptionally, in the epithelial cells of the skin. They have also found lepra bacilli in the endothelial cells of the blood-vessels in the testicle, and, very exceptionally, free within the blood-vessels. They believe that the bacilli multiply within the cells, and, finally, probably through lack of nourishment, perish and undergo a granular degeneration leading to the formation of brown masses within the cells, in which degeneration the nucleus takes no part. These masses may unite with others and form brown globular structures, to which the name "globi" has been given by Neisser. Within the smaller intra-cellular masses, spaces or vacuoles are sometimes seen. These are, according to Hansen and Looft cell nuclei, in the majority of instances; in some cases, however, where the vacuoles are very small, they possibly represent a specific degeneration either of the bacilli themselves or of the cell protoplasm lying in the middle of the group of bacilli. They find globi within the seminal canals, and suggest that, possibly, bacilli free in these canals may be transferred to the ovum during sexual intercourse, and thus explain so-called hereditary cases.

As proof that the blood-vessels receive lasting injuries from the leprous infection, they instanced an epidemic of measles among the lepers in one of the Norwegian institutions—in anæsthetic patients they saw the previous leprous spots, which had long disappeared from view, definitely reappear, the hyperæmia and turgescence being on these places general, so that the earlier spots stood out as well-defined, red, and somewhat swollen areas.

In maculo-anæsthetic leprosy the specific lesions are the cutaneous macules, the glandular enlargement, and the lesions of the nerve-sheaths. In all these structures they find lepra bacilli. The cutaneous bullæ which occur in the course of maculo-anæsthetic leprosy, the glossy skin, the atrophy and necrosis of bones, the acute rheumatoid affection of the joints, the occasional symmetrical hyperkeratoses in the legs and hands, and the changes in the nail are tropho-neurotic vaso-motor symptoms, and not due directly to leprosy.

bacilli. Hansen and Looff have never found lepra bacilli in the bones. The motor pareses which occur are not, according to them, due to a leprous affection of the muscles, as Neisser argues, but are a secondary neuritic symptom. They have never seen leprous affection of the tendon sheaths, such as Wolff has described, and they assert that the contraction of the fingers and toes which occurs is myogenous, caused by the leprous paralysis, and not tendogenous.

They devote a long chapter to the aetiology of leprosy, and in it they offer the strongest opposition to the hereditary view. All cases of leprosy are, according to these, due to specific bacilli—the lepra bacilli. A convincing argument in favour of the specific nature of leprosy is afforded by the marked reduction in the number of cases of leprosy in Norway which has followed isolation. The result of this isolation is shown by a table at the end of the book. Again, lepra bacilli are found in all true leprous products. Complete success in inoculation experiments are alone wanting to place the matter beyond the region of controversy.

In regard to the relative frequency of the nodular and maculo-anæsthetic forms of leprosy in Norway, they note that the maculo-anæsthetic cases are more numerous in the eastern districts, where the climate is dry; the nodular in the western, along the coasts where the climate is moist. And they note that in this western division there is a region where the climate is not nearly so moist as in the division generally, and here the proportion of maculo-anæsthetic cases is distinctly higher, as is shown by a table.

They deal with the treatment of leprosy at considerable length, and, having given a patient and thorough trial to the majority of the remedies which have been reputed to cure the disease, they are forced to the lamentable conclusion that all the remedies hitherto tried are failures, and to protect the healthy by isolating those affected is all the physician has the power to do. They have given a trial to the treatment by which Unna claims to have cured three cases of leprosy—namely, the internal administration of ichthysol, and the external use of pyrogallol and chrysarobin—reducing remedies—but failed. They point out that, in some cases of leprosy, both nodular and maculo-anæsthetic, nature effects

a cure after many years ; the bacilli die out, and the result of their presence—greater or less mutilation—alone remains. They hint at this possible explanation of the supposed cures of leprosy by medicinal means.

There are twelve plates in this book. The first five are from photographs, and represent the appearances presented by patients suffering from the two forms of leprosy. The remaining seven are chromo-lithographs, and represent the microscopic changes found in the cells and tissues. These plates are extremely good, and are a great help in the elucidation of the text.

The publishers have spared no pains in the execution of their work. The binding, paper, and type leave nothing to be desired.

We congratulate Dr. Walker on the beauty of his translation. It is written in excellent English. In no part of the book can one find a single clumsy sentence, which is so difficult to exclude from a translation of a foreign work.

Alcoholic Drinks. By DR. LISROA PINTO. Colombo. 1895.
Pp. 65.

AN interesting pamphlet, arranged in catechism form, giving a great deal of information as to drink and its effects in Colombo. Many general facts as to alcohol are added (Dr. Cheyne, of Dublin, being more than once quoted), and the whole pamphlet well repays study.

A Text-book of Hygiene: a Comprehensive Treatise on the Principles and Practice of Preventive Medicine, from an American Standpoint. By GEORGE H. ROHR, M.D. Third Edition. Philadelphia: The F. A. Davis Company, Publishers. London: F. J. Rebman. 1894.

IN this not very carefully-written work on Hygiene most of the subjects relating to public health are treated. We cannot agree with the author that it is a “comprehensive treatise,” as its size does not admit of the comprehensive or exhaustive discussion of many departments of hygiene. The information in regard of the examination of water is

very meagre and imperfect. For example, the detection of ammonia in water is effected by adding Nessler's solution to the water first treated with sodium carbonate to precipitate earthy salts. This method is of the very roughest description, and is not employed by any professional analyst.

The chapter on food is sketchy. A pretty large amount of information is given, but on some points we must differ from the author. We cannot, for example, agree with him that average-quality cows' milk contains only 11.8 per cent. of solids, including 3.4 per cent. of fats. In no other work that we have come across has the average percentage of solids been stated as less than 12.5, or of fats than 3.5. In giving the composition of vegetable foods, the author does not point out that their nitrogenous constituents are not necessarily all albuminoids, or, to use the author's nearly obsolete term, proteids. In all recent analyses of food the nitrogenous matters are divided into true albuminoids, which are assimilable and non-assimilable nitrogenous matters, such as amido compounds, nitrates, &c. For example, half the nitrogenous matter in the potato tuber is not assimilable. Here is a statement which will amuse the chemist:—"Flour is not infrequently adulterated with chalk, gypsum, pipeclay, and similar articles. These are easily detected by adding a mineral acid which produces effervescence when it comes in contact with the alkaline carbonate used as an adulterant." None of the above-mentioned substances is an alkaline carbonate, and neither gypsum nor pipeclay effervesces with acid. We do not agree with the author that either gypsum or pipeclay is not infrequently used to adulterate flour.

In a table showing relation of density of population to death-rate, the author gives the deaths of London as 24 per 1,000 inhabitants. It is many years since this death-rate was the average in London. The table in question does not, however, show the density of population, but merely the average number of inhabitants per house.

In a "comprehensive treatise" such as that under review, we should expect more information about water-closets and house drains. The best form of water-closet—the wash-down—is not mentioned, nor is the proper size of drains given. We do not agree with the author that no trap should

intervene between the house drain and main sewer, but we do agree with him that so-called inlets for fresh air are often outlets for foul air.

The chapters relating to personal hygiene are very good, and sound advice is given in them.

In concluding this short notice of Dr. Rohé's book, we cannot avoid saying that we know of no standard work of the kind which it is likely to displace.

A Manual of Gynaecological Practice. By DR. A. DÜHRSSEN.

Translated and Edited from the Fourth German Edition
by JOHN W. TAYLOR, F.R.C.S., and FREDERICK EDGE,
M.D., London. London : H. K. Lewis. 1895.

We congratulate the authors on their successful translation of this little book, whereby the English student has, at last, placed within his grasp a small but, nevertheless, excellent gynaecological work—the best, we have no hesitation in saying, of its size in the language. We fully agree with the statement in the translators' preface—namely, that “scarcely a word in the book is without its significance.” It has also the rare advantage of being a book interesting to read, and likely to be remembered by those perusing it. For these latter qualities we are largely indebted to the skill of the translators.

The first fifty pages will prove particularly interesting to those whose opportunities do not bring them into contact with the methods of modern gynaecological work.

The mode of bimanual examination is fully explained. The correct position of the normal uterus is shown; a few necessary instruments receive notice; and, for the rest, the modern contrivances to ensure cleanliness, and the technique of abdominal sections, are ably and fully described.

These subjects are much better dealt with here than in many of our more pretentious works.

The author's special operation, known as vaginal coeliotomy, warrants a very careful study. It is excellently described, and will not fail to interest. Thus, we read, that “many operations can now be carried out upon the pelvic organs which are as visible as in ventral laparotomy

and for which formerly the latter was required—as enucleation of myomata, many operations on the adnexa, extirpation of cystic pedunculated ovarian cysts, cure of retroflexion by stitching the fundus to the anterior vaginal wall, &c."

The author claims that this operation has many advantages over ventral laparotomy—viz., a shorter convalescence, absence of shock—the inconvenience being no greater than after curetting—no omental or bowel adhesions are possible, nor yet is there any danger of hernia. We do not think the author has in any way exaggerated the importance of his operation, and feel confident that it has come to stay.

Diseases of the vulva, and methods for the cure of old-standing perineal lacerations, are well described, as are also vesico-vaginal fistulae.

Metritis, endometritis, cervical stenosis, all receive due notice. Curetting, its methods and dangers, are described, while the larger operations for the removal of tubes, ovaries, and myomata, are not forgotten.

In short, this work of 238 octavo pages should be in the hands of all—bringing, as it does, our present knowledge of the subject treated of almost fully up to date, and giving us an exposition of modern methods as practised in the best gynaecological clinics of the world.

Obstetric Surgery. By EGBERT H. GRANDIN, M.D., and GEO. W. JARMAN, M.D., Obstetric Surgeons to the New York Maternity Hospital, &c. Philadelphia: F. J. Rebman. 1895.

THIS book deals with election in obstetric surgery, and we can heartily recommend it as a safe and useful guide to those desirous of becoming acquainted with the methods of modern operative midwifery.

The introduction is, probably, the most useful chapter in the book, dealing, as it does, with antisepsis and asepsis, and treating both in the most approved modern style.

This subject has, for the most part, been lamentably neglected in modern obstetrical works, and we rejoice to

see that the authors have not omitted or slurred over so important a branch of Preventive Medicine.

We cannot, however, agree with the statement that the vagina should be scrubbed out with "a new tooth brush." In the first place, "newness" and cleanliness are by no means synonymous terms; and, secondly, such an appliance, by rubbing away the protecting epithelium, would leave the tissues exposed to the inroads of micro-organisms, and thus promote, rather than retard, septic inoculation.

Chapter I. deals with obstetric dystocia, and its determination and some very imperfect information is vouchsafed on the different forms of contracted pelvis. Some excellent photographic plates illustrate the methods of external and internal pelvimetry, the operator being, unfortunately, shown at his work with shirt sleeves down and cuffs on, after the American fashion. This, to say the least of it, is incongruous with the stringent directions furnished in the introduction. None of the modern pelvimeters by which internal measurements can now be obtained with much accuracy are even mentioned, the authors preferring the old-fashioned plan of determining the length of the true conjugate by calculations based on the length of the diagonal.

Indications for induction of premature labour, with methods of inducing same, are next considered in an admirable manner.

Forceps, versions, difficult deliveries of both vertex presentations, and those of the after-coming head, are ably described, and the methods of combining them lucidly given.

Chapter V. deals in the most complete manner that we have as yet seen with the operation known as symphysiotomy. The authors are strongly in favour of what they term the subcutaneous methods of performing this operation, and describe it by saying a three-inch incision should be made above the pubic bone and between the recti muscles. We marvel why this should be considered a subcutaneous method.

Cæsarean section and embryotomy receive due notice, and are well worth reading, but we fail to see why a

different instrument should be employed in order to perforate the fore and aftercoming head.

The book concludes with a meagre description of ectopic gestation, in which the subject is not done justice to in any particular, and the ending sentences of the work convey a good idea of the optimistic views entertained as to its treatment by the authors :—

“Under the modern method of treatment we have outlined, ectopic gestation has been practically robbed of its terrors, and the almost absolute mortality rate of the past has been converted into the almost certain recovery rate of the present.”

The Phonographic Record of Clinical Teaching and Medical Science. July, 1895.

The Use of Shorthand by the Practitioner, with Examples. 1895.

THESE two pamphlets, issued by the Society of Medical Phonographers, are printed in shorthand, so the amount of matter they contain is much larger than their exteriors would suggest. Amongst the contributors to the former is Mr. H. R. Swanzy, who gives notes of four clinical cases.

The latter pamphlet gives, on page 15, a specimen case sheet, which will make house surgeons and hard-worked practitioners regret that shorthand was not in their curriculum.

Materia Medica (Catechism Series). Part VI. Edinburgh: E. & S. Livingstone. Pp. 72.

THIS part deals chiefly with some of the Natural Orders and the substances derived from them. It is in the form of question and answer, and the information is fuller and more reliable than is usually the case in works arranged on this plan. As might be expected, the therapeutic effects are the sketchiest part of the answers, but probably students get as much as they will be expected to know.

The introduction of cod-liver oil on page 71, under the heading of “Felices,” is the chief novelty in this pamphlet.

PART III. MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—WILLIAM THOMSON, F.R.C.S.I.

SECTION OF OBSTETRICS.

President—DR. R. D. PUREPOT.

Sectional Secretary—DR. F. W. KIDD.

Friday, March 1, 1895.

The PRESIDENT in the Chair.

Case of Intra-ligamentous Cyst.

DR. J. A. SCOTT said:—The specimen described by Dr. Macan at a former meeting was placed in my hands by the Reference Committee for examination. It consists of the greater portion of the uterus and the appendages of both sides. In the portion of the uterus I found the cavity to be one inch deep, while the body contained three myomata about one and a quarter to one and a half inches diameter and some about half an inch diameter or less. The total uterine mass measured about four inches antero-posteriorly and about two inches laterally. The Fallopian tube on the left side measured about three inches, and with the ovary was apparently normal. On the right side the broad ligament was distended by a large sac measuring about four and a half inches antero-posteriorly and about six inches laterally. The Fallopian tube was stretched by the cyst until it measured eight inches, and was so very closely incorporated with the cyst wall at its uterine end that microscopical sections had to be made to trace its

position. The right ovary was rather smaller and more elongated than the left. The ovary and Fallopian tube lie at opposite sides of the sac. Sections through the sac in the neighbourhood of the ovary showed that the cavity was separated from that organ by several layers of dense fibrous tissue, of which the cyst was composed, outside which was a less dense and more vascular layer which seemed to merge into the vascular stroma of the somewhat degenerated ovary. In the sections of the cyst wall no epithelial lining could be seen, but this was probably removed by examination since the operation, as by scraping the inner surface and staining the scrapings distinct, isolated, epithelial cells could be found. The cavity of the cyst was somewhat pear-shaped, the narrow end being next the uterus and lying between two of the myomata alluded to in the body of the uterus; on separating these slightly it was found to terminate with a somewhat rounded extremity. The position of the sac in the broad ligament, filling up the space between, and being attached to both the ovary and Fallopian tube and its epithelial lining, would point to an origin from the remains of that part of the Wolffian body known as the Parovarium, or from the small portion of the Wolffian duct which is sometimes attached to the tubular portion of the Parovarium. Its attachments and relations with the surrounding organs render an ovarian origin unlikely; but while, from a careful examination, I lean to the former origin, it is impossible, from the present condition of the cyst epithelium, as well as the possible changes, in a chronic growth, to be absolutely certain.

DR. ALFRED SMITH showed two ovarian tumours removed by celiotomy. The patient was unmarried, aged twenty-five. She enjoyed good health up to two years ago, when her menstruation became painful. She missed a menstrual period in November, 1894. About the end of December, 1894, the change came on very heavy, and was accompanied by great abdominal pain. She then consulted Dr. O'Gorman of Arklow, who diagnosticated an ovarian tumour, and sent her into St. Vincent's Hospital. On examination the breasts were enlarged—marbled; the areola very dark with well-marked secondary areola—which was raised above the body of the gland, like a watch-glass. On pressing the nipple, milk squirted out profusely. Linea nigra well-marked, also lines albicans, particularly on the left side. Examination under ether showed one large ovarian tumour, with long pedicle growing from the left side. On the right, the ovary could be palpated, and along with the ovary a cyst apparently continuous with the Fallopian tube. The impression conveyed was that of an extra-uterine

fœtation in the distal end of the tube. This opinion was apparently corroborated by the history and other signs of pregnancy. The abdomen was opened next day, and the tumours were removed. The cyst in the right side proved to be a papillary cyst rising from the hilum of the ovary; it was the size of a hen's egg—and not an extra-uterine fœtation. Recovery rapid.

DR. SMYLY thought it was very like a tubal pregnancy. In any case Dr. Smith did the right thing in operating at once. He saw a case in Berlin of a tubal pregnancy in which they put off operating till the next morning. During the night the tube ruptured.

DR. F. W. KIDD said it was interesting to note what a number of pelvic tumours have the symptoms of pregnancy occurring simultaneously. He had seen a case which turned out to be an intra-ligamentous cyst which developed all the symptoms of pregnancy of the fourth month, and a great many of the signs.

DR. WINIFRED DICKSON saw a case operated on in Berlin. She presented the symptoms of ruptured tubal fœtation, and a tumour could be made out on one side. When the abdomen was opened the tumour was found to be an ovarian cyst, but on the opposite side was a small ruptured extra-uterine fœtation which had given rise to the symptoms.

DR. GLENN proposed that the tumour be referred to the Committee of Reference for pathological investigation. This proposition was seconded by Dr. Smith and passed.

Ovary and Tube removed for Pyosalpinx.

DR. F. W. KIDD exhibited an ovary and tube removed for pyosalpinx. Patient aged thirty, married ten years; had one abortion shortly after marriage, sterile ever since; was admitted into the Coombe Hospital on October 13th, 1894, complaining of severe pain in lower part of abdomen, especially in left iliac fossa. On examination lower portion of pelvis was found filled with an exudation the result of inflammation, very firm—every organ being matted together by it—above this on the left side could be palpated a fluctuating tumour. Patient assigned as a cause of her illness the fact of her having been exposed to a wetting in August, when on an outing. She was menstruating at the time. This function suddenly ceased and the abdominal pain set in. She had been quite an invalid ever since. Diagnosis made was—parametritis on both sides, adhesions and pyosalpinx left side. Applications, douches, and tamponnade were all ineffectual in bringing relief to patient; operation was deferred owing to the fact of all organs in pelvis.

being adherent; finally, owing to prolonged high temperature (a chart was here shown with the temperature running between 100° and 103° for over three months), hectic fever and sweating, the patient was daily becoming more exhausted and sinking. On the 22nd of February she was operated on, and after due preparation was placed on Trendelenberg's table, when peritoneum was opened, intestines did not gravitate towards diaphragm owing to numbers of adhesions—some recent, some old and very dense. These had to be ligatured and tied. An enlarged tube containing pus was found on the right side amidst dense adhesions, this, along with the ovary, was with great difficulty removed, adhesions existed between the bladder and sigmoid flexure on left side that could not be broken down, and the fluctuating tumour proved to be an intra-ligamentous cyst with comparatively clear fluid. This cyst was tapped, an opening was made in the abdominal wall about two and a half inches away from abdominal incision. Sutures were passed through the sides of this, embracing the opening made in the cyst wall, which, when tightened, drew the cyst wall into opening in abdominal wall; a drainage tube was passed, and operation completed. Patient, one week after operation, had stitches removed, and perfect union of abdominal incision; small drain of iodoform gauze running down into cyst which was granulating rapidly. Hectic fever had ceased and temperature had not gone above 100° F.

DR. SMYLY thought that a very interesting point in the case was the supervention of acute symptoms on exposure to cold. The infection might have taken place at the time of the abortion. To his mind cases of pyosalpinx were among the most difficult of abdominal operations, especially if the parts are bound down by dense adhesions.

Leucorrhœa: its Causes, Varieties, and Treatment.

DR. T. MORE MADDEN read a paper on this subject. [It will be found in Vol. XCIX., page 289.]

MR. E. H. TWEEDY thought that leucorrhœa was a symptom of almost every disease of gynaecology. He wanted to know some diagnostic difference between simple vaginitis and that due to gonorrhœa. For some time he had been using the microscope to distinguish between them, but was sorry to see that Dr. Madden threw some doubt on the bacteriological examination. He took a little of the pus on a slide, pressed out with a cover-glass, removed the latter and applied an aqueous solution of methyl violet. In a few minutes he washed it with water and replaced the cover-glass. The whole

thing did not take more than two minutes. He did not see any use in the curette as a means of curing leucorrhœa from endocervicitis. Mild forms could be cured by the prolonged use of sulphate of copper and pyroligneous acid. The more severe forms could be cured only by cutting out the diseased part. He thought vulvitis occurring in married women was due to gonorrhœa much more commonly than Dr. Madden supposed. He did not always find what was put down as distinctive marks in the text-books—namely, swelling of the vulva and pus coming from the urethra, but he could find gonococci.

DR. ALFRED SMITH said that the connecting of leucorrhœa of childhood with sterility and some malformations of women occurring in after-life was a very interesting point and one which had never occurred to him. He thought the term leucorrhœa was a bad word, and he never used it himself. In the hospital dispensary he did not examine constantly for the gonococcus, but generally made the diagnosis from the symptoms. He frequently examined for it in private and in doubtful cases. He found great difficulty in finding the gonococcus in cases of old gonorrhœal infection. He only found it by irritating the vagina. He thought that a great deal of the chronicity of these cases was due to want of proper treatment. He hyper-distended the vagina and used corrosive sublimate, and quickly cured them. He agreed with Dr. Tweedy about excising part of the lips of the cervix for bad cases of endocervicitis.

DR. SMYLY wished to know whether there was any difficulty in recognising the gonococcus?

DR. ALFRED SCOTT said that if one got any of the pus and stained with methyl violet, it was almost impossible to miss them. Unfortunately, there were about eight micrococci which belonged to the same class. The most convenient check was to stain by Gram's method. If they stain by this method they are not gonococci. Cultivation was much more difficult, and took from one to two months.

DR. PARSONS was not prepared to hear so much doubt thrown upon the staining of gonococci. If he found them lying in or on pus corpuscles, and occurring in pairs or tetrads, he thought it was almost diagnostic of gonococci.

DR. WINIFRED DICKSON agreed with the views expressed by the last speaker. In Vienna, at the extern dispensary, finding the gonococci in the epithelial cells after staining with methyl violet was regarded as pathognomonic.

DR. BEWLEY also agreed with Dr. Parsons, but said that a

certain number of observers had found organisms in perfectly healthy urethras which they were unable to distinguish from gonococci. These cases were, however, very rare. So that for ordinary diagnostic work, finding the gonococci in the cells after staining with methyl violet was quite sufficient, but if going to give sworn evidence, one should make further investigation.

DR. SMYLY thought that it was very easy to cure gonorrhœa of the vagina, but that it was not so easy when Bartholin's glands and the cervical tissue had become infected. He did not understand the terms "follicular vaginitis" or "mucoid acid secretion."

DR. MORE MADDEN, replying, said that he was glad his paper had given rise to so much discussion, but was sorry that discussion had been directed somewhat exclusively to the distinction between gonorrhœal and non-gonorrhœal leucorrhœal discharges. He expressed his doubt as to the ready diagnosis of gonorrhœal from ordinary leucorrhœa by the immediate recognition of the gonococcus, and was glad to see that Dr. Smith attached more importance to the history than to the microscopic appearance of the discharge. He thought the technical terms he had used required neither explanation nor apology, being such as might be generally found in most text-books of gynaecology.

The Section then adjourned.

THE WM. F. JENKS MEMORIAL PRIZE.

THE Trustees of the William F. Jenks Memorial Fund, Philadelphia, announce, under date August 1, 1895, that the William F. Jenks Memorial Prize of five hundred dollars, under the deed of trust of Mrs. William F. Jenks, has been awarded to A. Brothers, M.D., 152 Madison-street, New York, for the best essay on "Infant Mortality During Labour, and its Prevention." The Prize Committee also reports as highly meritorious the essay on the same subject bearing the motto "Vade Mecum." The writers of the unsuccessful essays can have them returned to any address they may name, by sending it and the motto which distinguished the essay to the Chairman of the Prize Committee, Horace Y. Evans, M.D., College of Physicians, Philadelphia. The Trustees of the William F. Jenks Memorial Fund are Messrs. James V. Ingram, Charles S. Wurts, and L. Minis Hays.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;

F.R.C.P.I.; F. R. Met. Soc.:

Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, August 10, 1895.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	July 20.	July 27.	Aug. 3.	Aug. 10.		July 20.	July 27.	Aug. 3.	Aug. 10.
Armagh	21.0	28.0	14.0	28.0	Limerick	28.1	19.6	21.1	29.5
Belfast	27.3	22.7	25.4	18.9	Lisburn	17.0	21.8	0.0	21.3
Cork	17.3	21.5	14.5	14.5	Londonderry	12.6	18.8	15.7	14.1
Drogheda	8.8	8.8	17.6	17.6	Lurgan	18.7	22.8	18.7	18.7
Dublin	24.8	23.0	24.6	21.9	Newry	16.1	16.1	4.0	12.1
Dundalk	12.6	20.9	8.4	16.8	Sligo	10.2	5.1	5.1	35.6
Galway	30.2	18.9	15.1	15.1	Waterford	20.0	15.0	25.0	20.0
Kilkenny	14.2	23.6	9.4	18.9	Wexford	9.0	18.5	31.6	31.6

In the week ending Saturday, July 20, 1895, the mortality in thirty-three large English towns, including London (in which the rate was 28.7), was equal to an average annual death-rate of 21.9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18.2 per 1,000. In Glasgow the rate was 19.4. In Edinburgh it was 15.4.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 23.3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3.8 per 1,000, the rates varying from 0.0 in eight of the districts to 5.7 in Belfast—the 143 deaths from all causes registered in that district comprising 2

from measles, 1 from scarlatina, 1 from typhus, 1 from whooping-cough, 4 from enteric fever, and 21 from diarrhoea. Among the 25 deaths from all causes registered in Cork are 1 from whooping-cough and 1 from enteric fever. The 20 deaths in Limerick comprise 1 from scarlatina and 2 from diarrhoea.

In the Dublin Registration District the registered births amounted to 160—81 boys and 79 girls; and the registered deaths to 168—97 males and 71 females.

The deaths, which are 18 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25.1 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 24.8 per 1,000. During the first twenty-nine weeks of the current year the death-rate averaged 31.3, and was 2.6 over the mean rate in the corresponding period of the ten years, 1885—1894.

Twenty-five deaths from zymotic diseases were registered, being equal to the average for the corresponding week of the last ten years, and 7 over the number for the previous week. They comprise 2 from small-pox, 1 from influenza, 3 from whooping-cough, 2 from simple cholera, 14 from diarrhoea (being 5 over the average number of deaths from that disease in the corresponding week of the last ten years), 1 from erysipelas, and 1 from cerebro-spinal meningitis. The deaths from small-pox are those of a male 8 months old and a female aged 20 years, neither of whom had been vaccinated.

The admissions of small-pox patients to hospital, which had fallen from 11 in the week ended July 6 to 6 in the following week, rose to 15: 12 small-pox patients were discharged, 2 died, and 35 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week. This number is exclusive of 10 convalescent patients in the South Dublin Union Small-pox Hospital, Kilmainham.

Eleven cases of scarlatina were admitted to hospital, being 4 over the admissions in the preceding week: 4 patients were discharged, and 64 remained under treatment on Saturday, being 7 over the number in hospital on that day week.

Only one case of enteric fever was admitted to hospital against 5 admissions in the preceding week: 12 cases of the disease remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week.

Twenty-four deaths from diseases of the respiratory system were registered, being 8 over the average for the corresponding week of

the last ten years, and also 8 above the number for the previous week. The 24 deaths comprise 10 from bronchitis and 10 from pneumonia or inflammation of the lungs.

In the week ending Saturday, July 27, the mortality in thirty-three large English towns, including London (in which the rate was 23.0), was equal to an average annual death-rate of 22.5 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18.3 per 1,000. In Glasgow the rate was 18.6, and in Edinburgh it was 16.8.

The average annual death-rate in the sixteen principal town districts of Ireland was 21.6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3.5 per 1,000, the rates varying from 0.0 in five of the districts to 9.1 in Lurgan—the 5 deaths from all causes registered in that district comprising 1 from whooping-cough and 1 from enteric fever. Among the 119 deaths registered in Belfast are 1 from measles, 1 from diphtheria, 1 from simple continued fever, 3 from enteric fever, and 15 from diarrhoea. The 12 deaths in Londonderry comprise 1 from scarlatina and 2 from diarrhoea.

In the Dublin Registration District the registered births amounted to 211—106 boys and 105 girls; and the registered deaths to 160—83 males and 77 females.

The deaths, which are 8 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23.9 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 23.0 per 1,000. During the first thirty weeks of the current year the death-rate averaged 31.0, and was 1.5 over the mean rate in the corresponding period of the ten years, 1885-1894.

Thirty-three deaths from zymotic diseases were registered, being 8 over the number for the preceding week and 10 in excess of the average for the 30th week of the last ten years. They comprise 1 from influenza, 3 from whooping-cough, 1 from simple continued fever, 1 from simple cholera, 24 from diarrhoea—being 16 over the average number of deaths from that cause in the corresponding week of the last ten years—and 1 from erysipelas. Twenty-one of the 24 deaths from diarrhoea were of children under 5 years of age, 14 being of infants under 1 year old.

The number of cases of small-pox admitted to hospital was 9, being 6 under the admissions in the preceding week, and 3 over

the number admitted in the week ended July 13: 8 small-pox patients were discharged, and 36 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week. This number is exclusive of 8 convalescents under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

Ten cases of enteric fever were admitted to hospital, against 1 case admitted in the preceding week and 5 cases in the week ended July 13. Five patients were discharged and 17 remained under treatment on Saturday, being 5 over the number in hospital at the close of the preceding week.

The hospital admissions included, also, 7 cases of scarlatina, being 4 under the number of cases of that disease admitted during the preceding week, but equal to the admissions in the week ended July 13. Seven patients were discharged, and 64 remained under treatment on Saturday, being equal to the number in hospital on that day week.

The number of deaths from diseases of the respiratory system registered was 19, being equal to the average for the corresponding week of the last ten years, but 5 under the number for the previous week. The 19 deaths comprise 9 from bronchitis, 4 from pneumonia or inflammation of the lungs, and 3 from croup.

In the week ending Saturday, August 3, the mortality in thirty-three large English towns, including London (in which the rate was 21.4), was equal to an average annual death-rate of 20.7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18.0 per 1,000. In Glasgow the rate was 17.1, and in Edinburgh it was 18.7.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 21.9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3.4 per 1,000, the rates varying from 0.0 in eight of the districts to 9.0 in Wexford—the 7 deaths from all causes registered in that district comprising 2 from whooping-cough. Among the 183 deaths from all causes registered in Belfast are 2 from scarlatina, 1 from typhus, 4 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 2 from enteric fever, and 15 from diarrhoea. The 10 deaths in Londonderry comprise 1 from enteric fever and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted

to 249—133 boys and 116 girls; and the registered deaths to 172—100 males and 72 females.

The deaths, which are 28 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25.7 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 24.6 per 1,000. During the first thirty-one weeks of the current year the death-rate averaged 30.8, and was 2.5 over the mean rate in the corresponding period of the ten years, 1885-1894.

The number of deaths from zymotic diseases registered was 29, being 4 under the number for the preceding week, but 5 over the average for the 31st week of the last ten years. The 29 deaths comprise 3 from small-pox, 2 from scarlet fever (scarlatina), 2 from whooping-cough, 1 from enteric fever, 17—11 infants under 1 year old, 5 children aged 1 year and under 5 years, and 1 adult—from diarrhoea (being 8 over the average number of deaths from that cause in the corresponding week of the last ten years, but 7 under the number registered in the previous week), and 2 from influenza and its complications. The deaths from small-pox are those of a female aged 19 years, unvaccinated, a female aged 42 years, vaccinated, and a male aged 74 years, with reference to whom the return contained no statement as to vaccination.

Only 6 cases of small-pox were admitted to hospital, being 3 under the admissions in the preceding week, and 9 under the number admitted in the week ended July 20. Fifteen small-pox patients were discharged, 2 died, and 25 remained under treatment on Saturday, being 11 under the number in hospital at the close of the preceding week. This number is exclusive of 5 patients under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

The number of cases of enteric fever admitted to hospital is 6, being a decline of 4 as compared with the admissions in the preceding week. In the week ended July 20, but 1 case of the disease had been admitted. Three enteric fever patients were discharged and 20 remained under treatment on Saturday, being 3 over the number in hospital on the previous Saturday.

The hospital admissions for the week included, also, 5 cases of scarlatina, being 2 under the number of cases of that disease admitted during the preceding week: 15 patients were discharged and 54 remained under treatment on Saturday, being 10 under the number in hospital on that day week.

Eighteen deaths from diseases of the respiratory system were registered, being 1 under the number for the preceding week, but

2 over the average for the 31st week of the last ten years. The 18 deaths comprise 9 from bronchitis and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 10, the mortality in thirty-three large English towns, including London (in which the rate was 19.0), was equal to an average annual death-rate of 20.8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17.6 per 1,000. In Glasgow the rate was 17.4, and in Edinburgh it was 16.0.

The average annual death-rate in the sixteen principal town districts of Ireland was 20.2 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 3.1 per 1,000, the rates varying from 0.0 in seven of the districts to 10.2 in Sligo—the 7 deaths from all causes registered in that district comprising 1 from whooping-cough and 1 from diarrhoea. Among the 99 deaths from all causes registered in Belfast are 1 from whooping-cough, 1 from simple continued fever, 5 from enteric fever, and 8 from diarrhoea. The 21 deaths in Cork comprise 4 from typhus. Of the 9 deaths in Londonderry 2 were from scarlatina. The 8 deaths in Waterford comprise 3 from diarrhoea.

In the Dublin Registration District the registered births amounted to 172—101 boys and 71 girls; and the registered deaths to 149—83 males and 66 females.

The deaths, which are 4 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22.2 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 21.9 per 1,000. During the first thirty-two weeks of the current year the death-rate averaged 30.6, and was 2.5 over the mean rate in the corresponding period of the ten years, 1885-1894.

Thirty-three deaths from zymotic diseases were registered, being 6 in excess of the average for the corresponding week of the last ten years, and 4 over the number for the previous week. They comprise 2 from influenza and its complications, 1 from whooping-cough, 1 from simple continued fever, 2 from enteric fever, 22—18 infants under 1 year old, 3 children aged 1 year and under 5 years, and 1 adult—from diarrhoea (being equal to double the average number of deaths from that cause in the corresponding week of the last ten years), and 1 from erysipelas.

There has been a further decline in the number of cases of small-pox admitted to hospital, the number being 5 only, against

6 in the preceding week, 9 in the week ended July 27, and 15 in the week ended July 20. Two small-pox patients were discharged and 28 remained under treatment on Saturday, being 8 over the number in hospital at the close of the preceding week. This number is exclusive of 4 convalescents in the South Dublin Union Small-pox Hospital, Kilmainham.

Thirteen cases of enteric fever were admitted to hospital, being 7 over the admissions in the preceding week and 8 over the number admitted during the week ended July 27. One patient was discharged, 3 patients died, and 29 remained under treatment on Saturday, being 9 over the number in hospital on that day week.

The hospital admissions included, also, 13 cases of scarlatina, being 8 over the number of cases of that disease admitted during the preceding week. Seven patients were discharged and 60 remained under treatment on Saturday, being 6 over the number in hospital at the close of the preceding week.

Only 10 deaths from diseases of the respiratory system were registered, being 7 under the average for the corresponding week of the last ten years, and 8 under the number for the previous week. The 10 deaths comprise 7 from bronchitis and 2 from pneumonia or inflammation of the lungs.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of July, 1895.

Mean Height of Barometer, - - - - -	29.887 inches.
Maximal Height of Barometer (on 4th, at 9 a.m.),	30.281 "
Minimal Height of Barometer (on 21st, at 9 a.m.),	29.341 "
Mean Dry-bulb Temperature, - - - - -	58.0°.
Mean Wet-bulb Temperature, - - - - -	54.6°.
Mean Dew-point Temperature, - - - - -	51.6°.
Mean Elastic Force (Tension) of Aqueous Vapour, - - - - -	.382 inch.
Mean Humidity, - - - - -	80.0 per cent.
Highest Temperature in Shade (on 6th), - - - - -	73.8°.
Lowest Temperature in Shade (on 4th), - - - - -	48.1°.
Lowest Temperature on Grass (Radiation) (on 4th), - - - - -	44.8°.
Mean Amount of Cloud, - - - - -	71.8 per cent.
Rainfall (on 16 days), - - - - -	4.508 inches.
Greatest Daily Rainfall (on 25th), - - - - -	1.256 "
General Directions of Wind, - - - - -	N.W., W., S.W.

Remarks.

A very changeable, showery, and windy as well as a cool month, with a large rainfall at the beginning and close, and a decided prevalence of winds from westerly points—N.W., W., and S.W.

In Dublin the arithmetical mean temperature (59.2°) was markedly below the average (60.6°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 58.0° . In the thirty years ending with 1894, July was coldest in 1879 ("the cold year") (M. T. = 57.2°). It was warmest in 1887 (M. T. = 63.7°), and in 1868 (the "warm year") (M. T. = 63.5°). In 1886 the M. T. was 61.0° ; in 1888 it was as low as 57.8° ; in 1889 it was 58.7° ; in 1890, 58.1° ; in 1891, 59.0° ; in 1892, 57.8° ; in 1893, 61.6° ; and in 1894, 60.8° . From this, July, 1887, proves to have been the warmest since the present records commenced, whilst July, 1879, was the coldest.

The mean height of the barometer was 29.837 inches, or 0.078 inch below the corrected average value for July—namely, 29.915 inches. The mercury marked 30.281 inches at 9 a.m. of the 4th, and fell to 29.341 inches at 9 a.m. of the 21st. The observed range of atmospheric pressure was, therefore, 0.940 inch—that is, a little more than nine-tenths of an inch.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 58.0° , or 0.6 below the value for June, 1895. Using the formula, $\text{Mean Temp.} = \text{Min.} + (\text{max.} - \text{min.} \times .465)$, the value was 58.7° , or 1.5° below the average mean temperature for July, calculated in the same way, in the twenty-five years, 1865–89, inclusive (60.2°). The arithmetical mean of the maximal and minimal readings was 59.2° , compared with a twenty-five years' average of 60.6° . On the 6th the thermometer in the screen rose to 73.8° —wind, S.W.; on the 4th the temperature fell to 48.1° —wind, N.W. The minimum on the grass was 44.8° , also on the 4th.

The rainfall was 4.503 inches, distributed over 16 days. The average rainfall for July in the twenty-five years, 1865–89, inclusive, was 2.420 inches, and the average number of rainy days was 17.2 . The rainfall, therefore, was considerably above—in fact, nearly twice—the average, while the rainy days were somewhat below it. In 1880 the rainfall in July was very large— 6.087 inches on 24 days; in 1871, also, 4.391 inches fell on 28 days. On the other hand, in 1870, only $.539$ inch was measured on 8 days; in 1869 the fall was only $.739$ inch on 9 days; and in 1868 only $.741$ inch fell on but 5 days. In 1892, 1.952 inches fell on 12 days; in 1893, 2.042 inches on 14 days; and in 1894, 3.772 inches on 21 days.

High winds were noted on as many as 13 days, but attained the force of a gale on only two occasions—the 12th and 14th. Temperature reached or exceeded 70° in the screen on only 2 days—the 6th and 7th. In July, 1887, temperature reached or exceeded 70° in the screen on no fewer than 17 days. In 1888, the maximum for July was only 68.7°. In 1891 and 1894, maxima of 70° were reached on only 3 days, and in 1892, on only 2 days; but in 1893, 70° was reached on 8 days in this month. Electrical disturbances were frequent on the 19th and 21st. Hail fell on the 19th.

The weather of the period ended Saturday, the 6th, proved the converse of that of the previous week, being at first broken, with thunderstorms and heavy rains, but afterwards becoming fine, dry, and ultimately very warm. During the first three days the weather in the British Isles was controlled by a cyclonic system which travelled slowly along the S. course of Ireland, to North Wales, thence across the N. of England and the North Sea to the South of Sweden, where it was found on Thursday morning. Its passage was attended by clouded skies, heavy rains, and in many places thunder and lightning, as well as by low temperature for the season. On Thursday an anticyclone spread in over Ireland and England from the westward, causing a return of fine, dry weather, which culminated in great warmth on Saturday. On this day the high pressure system "backed" towards S.E., causing a warm S.W. wind to blow over Ireland. In Dublin pressure increased from a minimum of 29.401 inches at 1.30 p.m. of Monday (wind, E.) to a maximum of 30.281 inches at 9 a.m. of Thursday (wind, N.W.). On Thursday the minimum in the screen was 48.1°; on Saturday the maximum was 78.8°. Rain fell on the first two days to the amount of .757 inch, .566 inch being measured on Monday. The prevalent wind was north-westerly.

Changeable, but not unfavourable, weather held throughout the week ended Saturday, the 18th. The distribution of atmospheric pressure was cyclonic in the British Islands and Scandinavia, anticyclonic for the most part over France and Germany, as well as in the South of England up to Tuesday. Gradients for south-westerly winds were steep over Ireland until Wednesday morning, when a depression of some depth and intensity was found with its centre between the Shetlands and the S.W. coast of Norway. This disturbance caused strong winds—and gales at exposed stations—from W. and N.W., and in connection with it rain fell heavily in the N.W. of Ireland, the Hebrides and Shetlands. Scarcely had this system passed away when another and more serious depression

approached Ireland from the Atlantic, producing copious rains in places and squally S.W., veering to N.W., winds. On Thursday night it blew a moderate gale in both Dublin and Liverpool. Friday proved fair and bright in the rear of the depression, the centre of which lay over Denmark at 8 a.m. On Saturday the barometer fell again, and the wind freshened from W. with a quickly rising temperature. Very warm, even hot, weather was experienced in England up to Friday—the maxima in London were 80° , 82° , 79° , 77° , and 76° respectively. In Dublin the mean height of the barometer was 29.913 inches, pressure ranging from 30.114 inches at 9 a.m. of Sunday (wind, S.S.W.) to 29.641 inches at 9 p.m. of Thursday (wind, N.W.). The corrected mean temperature was 60.1° . The mean dry bulb reading at 9 a.m. and 9 p.m. was 59.7° . On Sunday the thermometer rose to 71.8° in the screen, on Friday it fell to 49.0° . The rainfall amounted to .243 inch, on two days, .223 inch being measured on Thursday. The prevailing winds were at first S.W., afterwards N.W., blowing from both quarters with considerable force.

As the week ended Saturday, the 20th, advanced, the weather fell into a very changeable, showery condition, and the strong winds of the previous week gave place to variable breezes from southerly quarters. Thunder-showers occurred on Friday and Saturday. At the beginning of the period a deep trough of low atmospheric pressure stretched from W. to E. across the southern part of Scandinavia and the Baltic Sea. Baric gradients for N.W. winds were steep over the British Isles, and moderate gales from the quarter named blew at many stations on Sunday and Monday, which were otherwise fine and dry days in most places. On Monday night a new disturbance advanced to the N.W. of Ireland from the Atlantic. It caused heavy rain in Munster and a temporary rise of temperature. During the remainder of the week the barometer fell intermittently as area after area of low pressure developed or arrived over the British Isles and their neighbourhood. On Friday and Saturday torrential showers of rain and hail, accompanied in some instances by thunder and lightning, occurred in many places, and the week closed with a generally unsettled appearance. In Dublin the mean height of the barometer was 29.705 inches, pressure ranging from 30.017 inches at 9 a.m. of Monday (wind, W.N.W.) to 29.411 inches at 9 a.m. of Saturday (wind, S.E.). The corrected mean temperature was 59.2° . The mean dry bulb temperature at 9 a.m. and 9 p.m. was 57.7° . On Sunday the sheltered thermometers fell to 51.7° ; on Tuesday they rose to 69.1° . Rain fell on six days to the amount of .748 inch,

·288 inch being measured on Thursday and ·202 inch on Friday. Thunder and hail occurred on Friday. The prevalent winds were N.W. and S.W.

A torrential rainfall in many parts of Ireland and England was the leading feature in the weather of the week ended Saturday, the 27th. Atmospheric pressure ruled low throughout, and it frequently happened that several minima developed within a wide-spreading barometric depression. The result was the commingling of opposing warm and cold air-currents, light variable winds, and an abundant precipitation. In the 24 hours ending 8 a.m. of Monday 1·23 inches of rain fell at Brixton in the south of London. In Dublin, the measurement at 9 a.m. of Wednesday was 1·014 inches, while that of the succeeding 24 hours was 1·256 inches—2·270 inches in two days. At Killiney, Greystones, and Fassaroe (Co. Wicklow) the downpour was not so heavy—1½ inches being registered. Friday and Saturday were fine days in and near Dublin, but thunderstorms and very heavy rains continued to prevail in many parts of Great Britain. On Sunday much thunder and lightning occurred in Ireland and Wales—a life was lost by lightning in the Co. Carlow and another in Brecknockshire. In Dublin the mean height of the barometer was 29·664 inches, pressure ranging between 29·341 inches at 9 a.m. of Sunday (wind, S.S.W.) and 29·907 inches at 9 a.m. of Tuesday (wind, W.N.W.). The corrected mean temperature was 57·7°. The mean dry bulb temperature was 57·1°. On Friday the screened thermometers rose to 68·7°, whereas on Wednesday they fell to 50·3°. The rainfall was 2·753 inches on six days, 1·256 inches being measured on Thursday and 1·014 inches on Wednesday. The prevalent winds were W.N.W. and E.N.E.

During the period from Sunday the 28th, to Wednesday the 31st, inclusive, no rain fell in Dublin. The weather was cloudy and cool, but otherwise favourable, with moderate N.W. winds. In London Sunday was gloomy and very wet, owing to the passage across the S.E. of England of a small depression embraced within the limits of a large area of low atmospheric pressure over Great Britain and the North Sea. As this disturbance passed away the barometer rose slowly in most districts and the weather became fine and dry, although the sky remained cloudy and the air was cool. On Tuesday and Wednesday a shallow area of low pressure moved eastwards across France. This system caused N.E. winds, and bright, cool weather in England. In Ireland the sky remained cloudy. In Dublin the barometer rose from 29·735 inches at 9 a.m. of Sunday (wind, W.N.W.) to 30·117 inches at 9 a.m. of

Wednesday (wind, N.). On Monday the screened thermometer fell to 51.0°, on Wednesday it rose to 63.8°.

The rainfall in Dublin during the seven months ending July 31st amounted to 16.785 inches on 96 days, compared with 18.133 inches on 130 days in the corresponding period in 1894, 11.666 inches on 92 days in 1893, 18.722 inches on 109 days in 1892, 10.935 inches on 92 days in 1891, 15.587 inches on 118 days in 1890, 13.146 inches on 112 days in 1889, 15.994 inches on 109 days in 1888, 7.935 inches on 80 days in 1887, and a twenty-five years' average of 14.783 inches on 112.6 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in July was 3.680 inches on 16 days, compared with 3.805 inches on 19 days in 1894, 1.290 inches on 15 days in 1893, 2.925 inches on only 10 days in 1892, 1.825 inches on 18 days in 1891, and 1.489 inches, distributed over 18 days, in 1890. Of the total rainfall 1.040 inches fell on the 24th and .600 inch on the 25th. The total fall since January 1 has been 17.950 inches on 83 days, compared with 21.186 inches on 115 days in 1894, 13.066 inches on 90 days in 1893, and 16.708 inches on 90 days in 1892.

At Clonkeevin, Killiney, Co. Dublin, the rainfall in July was 3.58 inches on 17 days, compared with a ten years' average of 2.085 inches on 18.9 days. On the 24th the rainfall was 1.05 inches. In July, 1894, 4.08 inches fell on 23 days, the maximum being 1.17 inches on the 24th, as in the present year. On the day named 1.100 inches fell at Fassaroe Co. Wicklow. Since January 1, 1895, 16.92 inches of rain have fallen on 98 days at this station (Clonkeevin).

GUNSHOT WOUND OF HEART (?)

DR. CLAUDIUS H. MASTIN records (*Medical News*, Philadelphia, LXVI., 26) a case in which he believes the right ventricle of the heart was penetrated by a bullet, from a Winchester rifle, which entered at the back on the left side just below and to the outer side of the angle of the scapula, emerging from the intercostal space between the fourth and fifth ribs, 2½ inches from the left nipple. The sufferer recovered.

DALRYMPLE HOME.

DURING the past two years 45 patients entered under the Acts, and 28 as private patients. The proportion that go in under the Acts is steadily increasing.

PERISCOPE.

EXAMINATION OF CANDIDATES FOR HER MAJESTY'S ARMY AND INDIAN MEDICAL SERVICES.

THE following papers were set in August, 1895.—*Chemistry and Materia Medica*.—Dr. Shore. Friday, 2nd August, 1895—from 10 a.m. till 1 p.m. [N.B.—The replies to be written with the INK provided, and not with a pencil or pale ink]. 1. Give an account of fluorine—how it has been isolated, its properties, and its most important compounds. 2. What is the chemical constitution of a fat? Into what substances is a fat resolved by heating it with steam under high pressure? What is the relation between a fat and a soap? Give equations. 3. Mention the chief remedies which may influence the heart's beat, and classify them according to their modes of action. 4. What is the botanical nature of ergot? Mention its preparations. Describe its physiological actions and its uses in medicine. 5. What is meant by "antagonism" between two drugs? To what extent are opium and belladonna antagonistic, and in what way are *nux vomica* and calabar bean antagonistic to each other?

Anatomy and Physiology.—Mr. Makins. Saturday, 3rd August, 1895—from 10 a.m. till 1 p.m. 1. Describe the cavernous sinus, mention its communications, and give its relations to included and surrounding structures. 2. Give the origin, course, relations, and distribution of the anterior crural nerve. 3. Describe the condition known as hemiopia. What varieties are met with, and how may they be explained on physiological grounds? 4. Give a short account of the manner in which the organic elements of food are prepared for absorption into the system, and state how the proteid carbohydrate and fatty elements respectively are taken up.

Medicine.—Dr. Allchin. Saturday, 3rd August, 1895—from 2 p.m. till 5 p.m. 1. Comment on the following cases in reference (A) to the nature and situation of the lesion, setting forth the grounds for the diagnosis; (B) the prognosis:—(A.) W. M., 52, a painter, admitted into hospital 1st June, 1895. His family history unimportant. He has always been very temperate. Has never had syphilis. Is said to have suffered from acute nephritis ten years ago, and two years since fell from a scaffold, breaking both arms and cutting his forehead; the scar of the latter persists and his right elbow has always been somewhat stiff since the accident. Six months ago he is reported as having had a "fainting fit,"

but no particulars of it are to be obtained. The present illness began on 1st June, when he was at work, by his suddenly feeling giddy and almost falling, but with no loss of consciousness. With assistance he was able to walk a short distance, though three-quarters of an hour after the first attack whilst at home he again felt "queer" and giddy, and quickly lost power on his right side, also without any impairment of consciousness. He was at once taken to the hospital and admitted. On admission he was found to be well nourished, fully intelligent, completely paralysed in the right arm and leg, and with some right facial paralysis. Speech thick, but no confusion of words. Left pupil rather larger than right, both act readily to light and accommodation. Movements of eyeballs normal. Tongue protruded to the right. General sensation in right arm and leg somewhat impaired. Knee jerks equal and fairly sharp. Pulse 60, regular, full; vessels hard. Cardiac impulse very indistinct, but felt slightly external to nipple line; accentuation of aortic second sound. A hyper-resonant percussion note over the whole of the front of the chest. Nothing abnormal detected in the abdomen. No blue line at edges of gums. Urine, Sp. gr. 1008, acid, contains a trace of albumen, no sugar. In the course of eight or nine days patient began to recover some power in his shoulder and elbow, but was unable to move his fingers three weeks after the attack, by which time he could move his leg tolerably well. He complained of occasional twitchings and involuntary startings of his right arm and cramp in his legs, but there was no rigidity in either limb. Sensibility was completely restored, and no sign of facial paralysis was to be recognised on 20th June. The urine always contained a trace of albumen.

(B.) J. P., aged 50, occupied all his life as a painter, admitted into hospital 22nd May, 1895. Nothing of interest or bearing on the case was ascertained in respect to his family history. He had been very free from illness all his life and could only remember "a slight touch of colic" in 1871, and "rheumatism" in 1884, but no certain facts as to these ailments were obtainable. He had never had syphilis, and described himself as being "very temperate," which appears to have been true. The illness for which he came under treatment began suddenly on the early evening of Saturday, 19th January, this year. He is stated to have had a hearty dinner midday and also later a heavy tea: about half an hour after the latter, immediately following an action of the bowels he expressed himself as "feeling queer," and in two minutes fell insensible across a table, though without injuring himself. For three weeks he remained unconscious, often very noisy, his speech so thick as to

be unintelligible, frequently trying to get out of bed, and for the first week incontinence of urine and faeces. From the first the right side of his face and right limbs were paralysed, the latter completely so. At the end of three weeks an improvement set in, chiefly in his speech, and his intelligence, and slowly continued, but there was very slight recovery of muscular power, and it was only with much difficulty and assistance that he could drag about. On admission he appeared to be a well-nourished man, perfectly clear-headed and intelligent, with no noticeable defect of speech. Face slightly flatter on right side and drawn very little to the left, tongue protruded in straight line and lying evenly in the mouth, no ocular paralysis, pupils equal and react equally and well to light and accommodation. The power of voluntary movement in his right arm is limited to partial movement of his fingers, but he can raise the whole leg a short distance off the bed, and there is imperfect movement in the toes and at the ankle and knee. Sensation over the right arm is impaired, and he does not distinguish satisfactorily between heat and cold over the same limb; these defects are much less noticeable in the leg. The skin of both right limbs is much moister than on left side. The patellar tendon reflex is increased on both sides but more marked on the right, and there is also ankle clonus on the same side. The plantar reflexes are very active, and the cremasteric reflexes noticeably sluggish. Pulse 64, regular, small; arteries hard. Cardiac impulse displaced outwards, and somewhat heaving in quality; first sound dull and prolonged, and aortic second accentuated. Lungs normal. No blue line on gums. Alimentary organs normal. Urine acid, pale, Sp. gr. 1020, trace of albumen, no sugar. During the next month patient remained in much the same state, the power in the right leg was sometimes rather better, and then appeared as if there were no improvement. Generally some stiffness was perceptible in the right arm, which occasionally was considerable. The urine continued as described. 2. Describe the morbid condition known as "fibroid phthisis," and the signs and symptoms upon which its diagnosis would be made. 3. What are the causes of chronic peritonitis? Describe the symptoms, course, *post-mortem* appearances and treatment of a well-marked case. 4. Describe in full detail the entire treatment you would adopt for a severe case of scarlet fever complicated by acute nephritis in a young adult.

Natural Sciences.—Dr. Shore. Thursday, 8th August, 1895—from 10 a.m. till 1 p.m.—[Candidates should answer not more than six questions, and they are recommended to confine themselves to two branches of science only.] *Zoology and Comparative*

Anatomy.—1. Describe and compare the structure of the heart and the arrangement of the blood-vessels immediately connected with it, in a fish, an amphibian, and a mammal. 2. Describe the changes which take place in the ovum *before* fertilisation, and discuss the significance of the phenomena you mention. 3. Compare the general organisation of hydrozoa and actinozoa. *Botany.*—

1. Describe the structure of the flower in the natural orders:—*cruciferæ*, *polygalaceæ*, *rosaceæ*, *scrophulariaceæ*, *liliaceæ*, and *orchidaceæ*. 2. Describe carefully the chief varieties in the structure of the seed, stating how the embryo is formed in some typical case. 3. Describe the life-history of *two* of the following types:—*Penicillium*, *vaucheria*, *puccinia*, *equisetum*, and *salvinia*.

Physics.—1. What do you mean by the hygrometric state of the air? State some means by which it may be determined, describing the hygrometer you would employ. 2. Explain by the aid of diagrams the principle of (a) the opera glass, (b) any kind of telescope. 3. Give some account of the value of electricity in the diagnosis and treatment of disease. *Physical Geography.*—1. What is the “plane of the ecliptic”? How has it been shown that the plane of the earth’s equator is inclined to the plane of the ecliptic? 2. Write down in the order of their succession the rocks of the paleozoic epoch. Describe the changes which take place in the conversion of vegetable tissue into coal. 3. Describe and explain the changes observed in (a) the barometer, (b) the thermometer, as we ascend higher and higher in the earth’s atmosphere.

Surgery.—Sir William MacCormac. 1. Enumerate the causes which may produce epididymitis. Give the symptoms, differential diagnosis, possible complications, and treatment succinctly of each form. 2. State in detail the circumstances which may render excision of the eyeball necessary, and describe the operation. 3. What causes tend to produce popliteal aneurism in a young adult? Describe the changes which take place in the artery and adjacent structures, the treatment you would adopt, and the results which may follow. 4. Describe a case of severe cut throat occurring in the more common situation. What structures may be involved or endangered? What complications may ensue? Give your treatment of the case.

MORTALITY AFTER OPERATION IN APPENDICITIS.

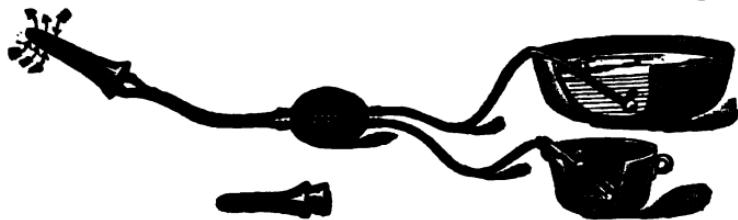
GILBERT BARLING, F.R.C.S., records (*Birmingham Medical Review*, July, 1895) his operations for Appendicitis:—“They are twenty-nine in number, and of these twenty-three were followed by recovery, and six by death. In all the patients who

died, general peritonitis existed at the time of operation, and was demonstrated by the symptoms as well as by the conditions found." The author considers that the cause of death in all (except one) was that they were *too late cases*.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

The "Vonda" Ladies' Syringe.

SOME two years ago Mr. Arthur B. Cruickshank invented a new vaginal syringe on a novel principle. The syringe was made by Messrs. J. G. Ingram & Son, of the London India Rubber Works, Hackney Wick, London, E., and was exhibited at the World's Columbian Exposition, Chicago, in 1893. The accompanying illustration explains the principle of this very ingenious instrument to which the name of "The Vonda" has been given.



It is an alternate douche and suction syringe, this double-action resulting from its construction with double tubes, one for injection and the other for waste. From a basin the fluid to be injected is sucked up by one tube by compressing and expanding the india-rubber ball or bulb; it passes on to the nozzle, whence it escapes into the vagina. Meanwhile, the alternate compression and expansion of the bulb is drawing back the waste fluid by gentle suction through the second tube, whence it escapes into a chamber-pot or other waste vessel. In this way, a constant stream of clean water or medicated injection is made to play on the vaginal walls and about the neck of the womb, while by gentle suction all foul or foreign matter is effectually washed away from the parts in question. If the nozzle is too long and its whole length cannot be inserted, it must be shortened by using the India-rubber ring, which should be well wetted before it is slipped over the nozzle.

The "Vonda" Syringe is patented in England, France, Germany, Belgium, Italy, Austria, and the United States of America, but may be obtained through any surgical instrument-maker or chemist and druggist.

THE DUBLIN JOURNAL OR MEDICAL SCIENCE.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. X.—*Internal Strangulation.** By WILLIAM THOMSON, F.R.C.S.I.; Surgeon to the Richmond Hospital, and Vice-President of the Royal College of Surgeons in Ireland.

By the title of this communication I wish to confine the scope of what I shall have to say to those cases in which nipping or complete strangulation of the intestine within the abdomen has been accomplished. Of course they come under the general description of intestinal obstruction, but although, in symptoms and treatment, these cases must overlap to a certain extent, the larger subject is too wide and complicated to deal with in a single paper.

The causes which lead to this strangulation of the gut are various. Sometimes it is a rent in a membrane through which a knuckle accidentally passes; sometimes the sudden pressure of a Meckel's diverticulum; and sometimes a like force exerted in the same way by a so-called band whose existence has been unsuspected. The process named after Meckel is a relic of foetal life,

* Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, February 15, 1895. [For the discussion on this paper, see page 171.]

and passes from the lower part of the ileum to the umbilicus—consequently, it is of considerable length, and when it produces strangulation a long coil is usually affected in more than one point. On the other hand, the bands which have been created by a previous attack of peritonitis are variable in length. I have seen them stretching across the abdomen, between very distant points; and again, so short that they could be discovered with difficulty. In two of the cases which I treated, the ring which was formed was so small that I could hardly pass my little finger into it. Yet a considerable quantity of intestine had gone through. The part at first must have been very small, and the vermicular action had forced onwards the portion which I found strangulated. That is one of the strange characters of some of these cases; but it is still more curious to note that patients who have such a thing as a Meckel's diverticulum stretched across a great space, and with the intestines closely applied to it, should for so long a period escape the danger of strangulation, and often carry it throughout life without damage.

My experience of cases of strangulation by bands or diverticulum extends to three. The first was a young man, about twenty-two years of age, who was suddenly attacked by violent pain in the abdomen, followed by severe vomiting. Constipation was a prominent symptom, and he was satisfied to trust to domestic remedies, chiefly in the shape of purgatives, before he came to hospital, about two days after the onset of his illness. When he was admitted he was sweating copiously—there was a weak thready pulse, and he was vomiting stercoraceous matter freely. There was very slight tympany. In consultation it was agreed that he was suffering from some form of internal strangulation, and I opened the abdomen without further delay. I at once found a band attached to the umbilical cicatrix, and I recognised this as a Meckel's diverticulum. Tracing it down, I found its origin near the termination of the ileum. The intestines which lay under it were very much congested, but far from being in a dangerous condition as regards recovery. I applied two ligatures within about an inch of the ileum, and

divided the diverticulum between them, and then, applying a ligature near the distal end, I severed the connection with the umbilical cicatrix. I did not make any close investigation of the ileum, as the patient was in a very feeble condition, and he was got to bed as speedily as possible. He rallied considerably; but I was disappointed to find next morning that the vomiting continued. He was still very weak, and although I considered the question of opening the wound to seek a further cause of obstruction, I thought it not impossible that he was suffering from the vomiting which we sometimes see continuing for some time after the relief of an ordinary strangulated hernia. He, however, sank during the day, and died about thirty hours after operation. At the *post-mortem* examination I found that the diverticulum had been properly divided, but that had I exposed the ileum fully, I should have discovered a state of things which we had not contemplated. The diverticulum had for a very long period pressed upon the ileum close to its termination, and had produced there a chronic and slowly advancing stricture. The diverticulum was adherent to the gut, which, by its continued pressure, it had diminished to the calibre of a quarter of an inch. Had I discovered this at the time of operation, I might have done an enterotomy or enterectomy, with perhaps little chance of success. But the operation was incomplete, and my only excuse is that the patient's condition made me hurry, and that the finding of congested intestines pressed upon by the diverticulum gave us what was deemed a sufficient cause for the symptoms.

The next case was that of a woman who had been under medical treatment for two days. Her symptoms were of the same kind. There was a history of sudden pain, vomiting, and great collapse. When I first saw her she was supposed to be dying, and we agreed that unless some improvement was established by stimulating treatment I should not operate. The opportunity came next morning, when she had rallied somewhat, and I at once made an exploratory incision, assisted by my colleagues, Sir Thoraley Stoker and the late Mr. Corley. There was

great injection of the intestines, which were much inflated. Tracing a coil downwards, my finger was conducted into the mesenteric attachment, where a dense matted structure was found involving a coil of gut. I could not raise it into view, and we agreed that, as the patient was almost moribund, it would be best to make an artificial anus, which I accordingly did at once. There was a copious discharge of fluid faeces, and for a time there seemed some hope of rally, but it was short-lived, and the patient died in about ten hours. Here it was found that a short thin band stretched across a loop of small intestine. It sprang from a mass of caseous glands, and passing over the intestine was attached to the same mass. Here also there had been long-continued pressure, for the gut bore outside the mark of stricture, and upon opening it I found that my little finger could with difficulty be inserted.

My most recent case was that of a young woman who, on the day before I saw her, was attacked suddenly by acute pain, referred to the umbilical region. She had eaten heartily of bacon and cabbage, and she attributed her pain to that circumstance. She, however, became very ill, vomited copiously, and was unable to move about. On the next morning she was admitted to the Whitworth, where she was seen by Dr. O'Carroll, who recognised the gravity of the case, and had her transferred to the surgical wards at the Richmond. I saw her late at night with Dr. O'Carroll and Mr. Myles. We were unanimous in believing that there was strangulation, and I determined to operate without delay. On opening the abdomen I exposed a large mass of very purple intestine, very tensely distended. Following it in the direction of the gradually-decreasing discolouration, I was at last led to a small coil which was closely fixed to the right angle of the body of the uterus. I could feel with my finger nail a thin cord, like a piece of tea twine, binding the intestine to the uterus. After considerable difficulty I was able, with the assistance of Mr. Myles, to roll the intestines aside and expose the seat of the constriction. The gut lay under the thin band I had felt. Passing a director between it and the intestine, the snip of a scissors at once freed it, and the uterus

sank back into its position. The patient was got back to bed very speedily. Her vomiting continued, and she also gradually sank and died on the day after operation. The *post mortem* showed about two feet of intestine to be almost black, but recoverable. The stump of the band was found on the uterus, but we could not satisfactorily determine the attachment of the other end.

I have not attempted to trouble you with full clinical details, but rather to give such a sketch of these cases as will serve for what I hope will be instructive discussion. I grieve to say that while diagnosis was correct, the results were uniformly fatal, and that they thus go to swell the list of unsuccessful laparotomies for intestinal strangulation.

One point I may call attention to, and that is the fact that in two of the cases there had been a gradual approach, apparently through many years, to the eventual crisis of strangulation. Here the mere relief of the constricting bands would have been insufficient, and only two courses were open—the resection of the stricture, or the creation of an artificial anus. Even had I been aware of the existence of a chronic stricture I should certainly not have attempted a resection, because the patients would probably have died upon the table. The only course that gave a gleam of hope was the making of an artificial anus.

The reported cases of internal strangulation are some of the saddest in surgery. We have a mortality ranging up to seventy per cent. In one group of records which I looked at I found that of some thirty-five published by English surgeons, only about five patients survived. It is true that that was printed some years ago, but still at a time when opening the abdomen for various surgical affections had well advanced our knowledge of successful treatment. Yet the dismal work still goes on, without much improvement in results; and, although there are successful cases, they are still in the minority. Why does this fatality dog our steps? Why is it that we regard a strangulation of intestine, in the ordinary cases of hernia, as almost certain to be successfully relieved by the surgeon; and why do we find strangulation of the same intestine within the abdomen so uniformly unsuccessful? These are questions

which demand an answer, and that may be found in a short consideration of the two groups of cases.

It is quite clear that deaths do not result from want of cleanliness. The cases do not survive long enough to allow of the development of septicæmia; indeed they are already dying when we see them. That is in itself a sufficiently bad condition for successful work. The prominent symptom is shock, which is established immediately after the strangulation takes place; and, as a result, the whole of the vital forces are lowered. In addition to this, the extent of intestine which suffers indirectly from strangulation is frequently great. The peritoneum is soon in a state of inflammation, and thus we have present at the time we operate two of the gravest conditions with which we have to combat—shock and peritonitis. On the other hand, in hernia, we have most frequently a strangulation of a portion of gut which has been long accustomed to protrude and to undergo varying degrees of pressure—educated, if I may so term it, to tolerate with less resentment the severer constriction which may some day or other be developed. We see this in our practice. We know that a suddenly-developed hernia, which becomes strangulated, is a much more serious and dangerous case to face than one in which the patient has been carrying his hernia for many years. And this fact is further of importance in accounting for the few cases of hernia in which we see peritonitis spreading from the nipped portion of the intestine. The peritoneum covering it has been long used to a constant slight irritation by alternate protrusion and reduction, perhaps many times in the day, until at last it is not very easy to rouse it into angry inflammation.

A study of these cases brings into prominence the great importance of early diagnosis and early treatment. Here we are met with the greatest difficulty. Very seldom does the patient come direct to a surgeon. He is seen by a medical man, who is not to be blamed if he does not at once recognise the gravity of the case. Even if he does appreciate this, time is lost before additional help can be obtained. But the primary misfortune is, that some of the symptoms are common to more favourable cases of obstruc-

tion, and it is not always easy to disentangle the threads of the puzzle. Vomiting, pain, complete obstruction, and even collapse, are met with in cases of a different class—cases which are sometimes treated successfully by less serious methods than laparotomy. What we must try to do is to fix attention upon any symptoms which, by their severity or their order of appearance, help to indicate what has happened.

Now, I think, the history of the occurrence of pain is of great importance. It is always sudden and severe. The patient not infrequently has been straining at some labour when pain of an acute kind, sometimes at once agonising, occurs in the abdomen, in the region of the umbilicus. This pain is steady and continuous, and, in my experience, does not diminish unless towards the close of the case. The pain produced by a twist differs from this. It is not continuous in severity, but comes on in paroxysms. Moreover, there is this further point to be noted, that in the strangulation by bands there is no desire to go to stool; in volvulus there is.

The second symptom which I think of importance is the collapse. This is very rapidly declared. The patient is pale and pinched; the pulse is thready and rapid; the body often covered with clammy sweat. In other instances I have seen collapse also, but it has been much later in its appearance, and has been due to some added complication, such as ulceration or extravasation of faecal matter into the peritoneal cavity.

Upon these two symptoms I would place most reliance. It is of no practical importance whether we can diagnose between a strangulation by bands, or a volvulus, or the protrusion of intestine through a hole in the mesentery or elsewhere. The matter to be determined is whether there is a strangulation or not, for, if there is, the only question to be then settled is the treatment.

Now upon this part of my subject there is very little to be said, but it must be clear and emphatic. There is only one course to be followed, and that is to perform laparotomy. Everything else only increases the great risk which the patient already runs. Between operation with a chance

of life, and no operation with certain death, there is no middle way. To narcotise our patient with morphin until he assents to our suggestion that he suffers less pain; to pump quarts of fluid into his rectum and colon in the hope of stirring up the intestines to action, while, in truth, we are only increasing the strangulation—these and the other modes of medicinal treatment are worse than useless; they only hasten the fatal ending.

The subject is not by any means exhausted in the remarks which I have made, but I have already almost exhausted the limits of my space, and I cannot weary you with much more. As to the operation, I only desire to say that *speed* is of the utmost consequence. This will be admitted when we consider the prostrate condition in which these patients almost invariably are. Here we are met by the further difficulty that the cause of the strangulation cannot usually be determined without a rather prolonged search. The introduction of the hand among the intestines, inflamed as they are, and the existence of peritonitis, adds greatly to the shock already existing. It is of importance, therefore, to get to the seat of obstruction at once.

Shortly, there are two ways in which this may be done—one is by a systematic examination of the cæcum, the ascending, transverse, and descending colon, and then of the small intestine, in this way determining the portion at which distended and collapsed bowel meet. That is, of course, the part to deal with. The other is the suggestion of Mr. Greig Smith, and it has the advantage of causing less disturbance. He says—"I believe the best means of reaching the seat of constriction will be by inspection of the bowel presenting at the wound. There is a high probability, wherever the cause lie, that the most dilated coils will rise nearest to the surface; and the greater amount of bowel being within three inches of the umbilicus, there is a further probability that the most dilated coils will be within sight. Very gently they may be moved—first on one side, then on the other, as well as upwards and downwards. The most dilated portion, which will be also the most congested, or not far off it, is fixed

upon and followed in the direction of increasing distension and congestion, wherever that may lead. It will certainly lead to the stricture. The whole manipulation may be carried out with two fingers."

That proceeding should first be adopted, and if it fails, we have still left the more serious plan of introducing the hand for more elaborate search. Even this may not succeed, and it may be necessary to allow the intestines to escape, but it should be resorted to only in the last extremity ; and if the patient is seriously collapsed, in my opinion it would be a wiser course to make an artificial anus.

I feel that it is not very exhilarating to relate the story of three fatal cases ; nevertheless, I think it is my duty to do so, in the hope that calm consideration of them may enable us to draw some beneficial lessons. I have learned, at all events, that it is desirable if possible to see, and not only to feel, the obstructing band ; and further, to inspect the bowel itself and judge whether by a chronic constriction it has not been so altered as to render it functionally useless. I have tried, further, to concentrate attention upon certain symptoms which I think are of great use in helping us to a diagnosis in a group of cases which are in many senses characterised by great obscurity.

Looking back upon these cases, I do not feel that my operations were inefficiently performed, or that the proper steps were not taken. I take what satisfaction there is in that view. Now-a-days, when one hears of long series of ovariotomies without a death, the surgeon who is unfortunate enough to have such cases as I have been considering, is apt to be unduly depressed by the misfortunes he has encountered. Yet the conditions are very different. It is one thing to remove a tumour from the abdomen, with a quiet peritoneum, to select your own day, and generally to make your preparations with comfortable deliberation, and then to pile up statistics of triumphs, which, limited practically to one and the simplest class of cases, are put forward as a suggestion that like success may be predicted of everything the operator might do in the same region. But it is quite another thing to take the rough with the smooth—to operate at a moment's notice when there is

every combination opposed to a favourable result—the furor of peritonitis, profound shock, and the hovering of death. Here are sufficient tests of one's courage, and coolness, and prompt judgment, and resource. True, our averages would be better if we did not touch the cases; perhaps our reputation as successful laparotomists would spread advantageously; but when they come to us we must, at any cost to ourselves, do the thing that alone gives a hope of relief.

ART. XI.—*A New Operation for the Cure of Rotation Inward of the Entire Limb, after aggravated Equino-varus; with an attempt to explain the Anatomy and Aetiology of the Distortion.** By R. L. SWAN, F.R.C.S.I., Surgeon to Dr. Steevens' and the Orthopædic Hospitals, Dublin.

THERE are certain deformities which are a common sequence to the cure (so far as the foot is concerned) of advanced conditions of equino-varus, which are unobserved during the existence of the greater malformation. Those are genu valgum, and a rotation inward of the foot and lower part of the limb.

Genu valgum.—This condition seems to be the result of an imperfect development of the structures composing the post-axial line of the leg, combined with the fact that the line of axis of the body-weight is external to the vertical centre line of the limb. The deformity, however, is not altogether derived from the mechanical force alluded to, as it is frequently seen in young children, the subject of a very moderate degree of equino-varus, and it varies considerably in amount. No further allusion to this subject is necessary; it may be dealt with by any ordinary surgical method.

Rotation inward of the limb.—This is a sequence of very great importance, as can easily be shown. A child who has had equino-varus, and has been so far cured that the foot

* Read before the Surgical Section of the Royal Academy of Medicine in Ireland, on Friday, March 15th, 1895.

rests normally on the ground, is notwithstanding still found to be the subject of a disfigurement. When walking, the limb is rotated inwards, and the foot, although plantigrade, is inverted. The advancing foot is carried forward on the dorsum of its opposite, or against the tendo-Achillis of the other leg. It will be observed that voluntary efforts of the child will have little real influence on this deformity. The apparent improvement in position is produced by a rotation outward of the entire limb, and is produced by an effort of the external rotator muscles of the hip. The entire limb is consequently turned outwards in an unnatural manner. The patella, instead of occupying its normal position in front, looks outwards, and, in short, one deformity is induced in order to correct another. The action of the limb is therefore constrained and awkward, and its movements quite different from the unrestrained and graceful actions with which the limbs of healthy children are endowed. Fatigue soon ensues, and the power of locomotion is limited. These results arise from the waste of muscular force employed in the maintenance of such a posture. A careful study of the limb will afford us a knowledge of the real conditions which induce the inversion of the foot, and the true method of dealing with such a deformity.

If we put the patient on his back and adjust the limbs so that the patella will lie directly in front, we see that the factors of foot-inversion commence below the knee. The tibia is in its normal position, but the lower extremity of the fibula is deflected forward, and is, indeed, considerably in front of the position which it should normally occupy. This can be estimated by either comparing the situation of the bone in such a case with that in a healthy child, or with the fibula of the other leg in the case of single equino-varus. Sometimes it will be seen that the lower extremity of the fibula is less prolonged than in the normal state. If we examine the osteological anatomy of the leg and foot in the order Primates, we find that in man—in the ordinary standing position—the entire outer edge of the plantar surface is applied to the ground; the inner edge by the extremities separated by an arch.

The tibia and fibula are well prolonged on either side of the astragalus, and the axis of the foot is at right angles to the axis of the leg.

In the orang-outang, and in a varying degree in all the monkeys, the free mobility of the navicular and cuboid bones on the astragalus and calcaneum causes the foot of the orang-outang to be set very obliquely on the leg, so that when placed on a level surface the fibular border only rests on the ground, and the sole is directed inwards. This, of course, suits well for grasping vertical boughs of trees, but is ill adapted for walking. In addition, we find that the malleoli do not descend to buttress the ankle-joint, as in man, but terminate on a higher plane. This allows of greater mobility to the grasping foot. It will also be found that the lower extremity of the fibula occupies a position in the quadruman anterior to that normally enjoyed by developed man. This was strikingly exemplified in the dissection of the hinder extremity of a chimpanzee, which was placed at my disposal for the purpose of such examination by Professor A. Fraser, R.C.S. We must regard, then, the deformity above alluded to as, indifferently, an arrest of development or atavism, and, occurring in conjunction with equino-varus, as an analogue to that natural condition contributing to functional efficiency in the anthropoid ape.

Many methods have heretofore been adopted for the rectification of this deformity. It is at the present time very usual to witness an unfortunate child loaded with steels, attached above the hips to a pelvic band, for the purpose of evertting the feet. Dr. Doyle, Syracuse city, U.S.A., devised an ingenious spiral spring arrangement for the same purpose. The influences of suggestion and education have been relied on to effect rectification as the child grows older, but, as already stated, with ineffectual result. With reference to mechanical appliances it may shortly be affirmed, that they conceal one deformity by producing a less obvious one, that they render a child's life miserable, and injure health by restricting active movements, and, in addition, they are costly, and a source of incessant worry from repeated breakages.

Having deliberated on the subject for a long period, it struck me that a rectification of the distortion could be arrived at by an osteotomy and a rotation outward of the lower part of the limb. I at first intended to select the femur—being a single bone—as most suitable for division. But I had not then mastered the real conditions. My friend and colleague, Mr. Arthur Chance, pointed out that I would by such a procedure introduce a deformity of the knee by evertting the patella. At once perceiving the truth of this remark I abandoned the idea. Subsequently perceiving the true method of dealing with the deformity, I adopted it. At the junction of the middle and lower third of the tibia a point is taken at which the tibia is carefully divided transversely. The section must be complete, as, obviously, a greenstick fracture, which is not unlikely to occur in such cases, will not suffice. The fibula must be left intact, and considerable care must be taken to obtain this result, as a slight amount of strain is sufficient to fracture it. The two segments of the tibia are then firmly grasped, and the lower one rotated outwards. This carries with it the foot and the fibula. It will now be found that the external malleolus will lie considerably behind its former position, and the foot, according to the amount of rotation employed, will be straight or everted. In those days of rigid surgical cleanliness, the patient, after such an operation, should suffer neither pain nor even inconvenience, and in a short time will be running about with symmetrical and unfettered limbs. I have operated on many dozens of cases by this method, and in the great majority of cases of aggravated equino-varus I believe it will be found a satisfactory and necessary proceeding.

ART. XII.—*Further Notes on Old Native Remedies.* By
HENRY S. PURDON, M.D.; Physician Belfast Hospital for
Skin Diseases.

ANYONE visiting the Belfast Vegetable Market, as I did on August 23rd, 1895, will find a stall therein presided over by an herbalist, whose list of herbs on date of my visit comprised

several, if not the majority of those hereafter mentioned, showing that in the present day in the large city of Belfast, with a population of 200,000, to say nothing of the surrounding country districts in the Counties of Antrim and Down, many persons are to be found who prefer the advice and treatment of the herbalist to that of the registered and qualified medical man. However, it is to call more or less attention to some old native remedies omitted in my former paper that these notes are continued.

Amongst the poor in country districts, paronychia and indolent swellings are still poulticed with "Chickweed" (the *Stellaria media*). The weed is first boiled, and then bruised and applied directly to the affected part.

In various parts of the County Down, as at Craigavad, Millisle, but especially at Newcastle and Bryansford, in the vicinity of the grand range of the Mourne Mountains, St. John's Wort (the *Hypericum androsaemum*) is to be found, from its handsome yellow flower called by the country people "The Rose of Sharon." This herb was formerly, but especially in England, used largely when boiled in wine or ale for internal use in vomiting or spitting of blood. Culpepper remarks "that two drachms of the seeds made into a powder and drank in a little broth doth gently expel choler or congealed blood in the stomach." It was also given before attacks of tertian and quartan agues, whilst locally the leaves made into an ointment with lard were applied as a dressing to wounds. As I have mentioned ague, it may be interesting to note that Dr. Graves, writing to the *Times* of April 26th, 1854, remarks, "that in all probability Quinine, from its high price, will be confined solely to hospital practice (during the Crimean War), or in the dressing-case of officers. It may be advisable to let soldiers know on disembarking at Gallipoli, that in the marshes and on the borders of the numerous lakes there grows an herb which, *ceteris paribus*, will prove their sheet anchor, being both a preventive and cure of diseases arising from *marsh miasmata*. It is the sweet-scented flag (the *Calamus aromaticus*). In Norfolk the dried root was used for the cure of ague many years ago by the country people. The dose is, of powdered root 20 to 60 grains, or an infusion may be used instead by digesting the root in 12 ounces of

boiling water. Dose, 2 or 3 tablespoonfuls." The ash of the powdered root contains potash, soda, lime, phosphoric acid, silica, peroxide of iron, and chlorides of potassium and sodium. The *Calamus aromaticus* is found in County Down, at Hillsborough, Ballynahinch, and on the banks of Lagan River. However, it is not an indigenous plant. Another plant is the "Fever-few" (*Matricaria parthenium*) found occasionally in the neighbourhood of Belfast, occurring in waste places as mentioned by Messrs. Corry and Stewart in their "Flora of the North-East of Ireland." "It is very good for them that are pursie or troubled with shortness of wind and for melancholic people, and such as be sad and pensive without speech" (Dodoen's Herbal, 1619). A plant found in the vicinity of sand-hills and links at Newcastle, Co. Down, called *Centaury* (*Erythraea pulchella*) has, when chewed, either the leaves or flower, a most bitter taste, similar to that of quinine, and remaining for a considerable time in the mouth. It was formerly used in cases of remittent fever, and is still extolled by country people as a tonic. Culpepper in his "Herbal" (1653) remarks that amongst other uses centaury is useful for bringing on the "courses in women, helps to void the dead-birth and eases the mother's pains," being thus to a certain extent similar to the action of quinine.

Carrot (*Daucus carota*), or common carrot, was contained in the Dublin Pharmacopœia, carrot-seed being obtained from the wild plant and used as a carminative and stimulant, whilst carrot-roots when boiled are still used largely by country people as a poultice to stimulate foul and indolent ulcers, being said not only to heal but also to correct any foetor.

The *Euphrasia officinalis*, or common eye-bright, a popular remedy for eye-diseases, is nearly inert. Grows on all hedges.

The scarlet pimpernel, called "poor man's or shepherd's weather-glass" (*Anagallis arvensis*), is used in some places at the present day as a remedy for chronic or muscular rheumatism. Years ago it was recommended to use the juice of the pimpernel to remove roughness or freckles from the skin.

Rest Harrow (*Ononis repens*) is very common on the sand-hills at Newcastle, and was formerly used as a remedy to "provoke urine when it is stopped, which the powder of the

bark of the root taken in wine performs effectually." It has fallen into disuse. *Wood sage* (*Teucrium scorodonia*) is also very common in the same locality, and is given to promote perspiration. The *mountain sage* is more popular, and was on view for sale at the herbalist's stall in market, so was a popular remedy in this part of Ireland called "Solomon's Seal" (*Polygonatum officinale*), which is a slightly astringent mucilaginous tonic, and taken in decoction for haemorrhages or diarrhoea. The word "Seal" is derived from the appearance of the root when cut representing a circle.

Tansy (*Tanacetum vulgare*) is still largely grown in cottage gardens, and I noticed it on stall in market, being considered an emmenagogue of much power, and is largely used by herbalists.

Yarrow (*Achillea millefolium*) is likewise used to a great extent by the poorer class as an aromatic tonic. It was formerly given in gonorrhœa. Its name is derived from "Achilles, who is supposed to have learned its virtues from his master, Chiron the Centaur." A most valuable remedy is *Couch-grass* (*Triticum repens*), sometimes called "dog-grass," and taken in bladder affections, as cystitis with ropy urine. The roots are first bruised and then infused; the remedy is as old as the days of Galen.

Walnut leaves have for ages been used, both internally drunk as an infusion and also outwardly for scrofulous affections, applied as fomentations. "The distilled water of the young green walnut leaves in the end of May," remarks an old author, "perform a singular cure on foul running ulcers and sores, to be bathed with wet cloths or sponges applied to them every morning."

Coltsfoot (*Tussilago farfara*) is still largely used for coughs and colds, being a demulcent similar to *Marsh-mallow*, also much used for coughs and as an ointment for application to indolent "swellings," but of not much use.

The list of popular and old-fashioned "Herb remedies" is now concluded.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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1. *The Climates and Baths of Great Britain: being the Report of a Committee of the Royal Medical and Chirurgical Society of London.* W. M. ORD, Chairman; A. E. GARROD, M.D., Hon. Secretary. Volume I. The Climates of the South of England, and the chief Medical Springs of Great Britain. London: Macmillan & Co. And New York. 1895. 8vo. Pp. 640.
2. *Ireland: its Health-Resorts and Watering-Places.* By D. EDGAR FLINN, F.R.C.S., D.P.H.; Examiner in State Medicine and Public Health, Royal College of Physicians' and Surgeons' Conjoint Examining Board, Ireland; Fellow and Member of Council of the British Institute of Public Health; Surgeon to St. Michael's Hospital, Kings-town; Formerly Medical Officer of Health, East Staffordshire. Second Edition. With numerous Illustrations, and Maps showing Distribution of Temperature and Rainfall throughout Ireland. Dublin: Fannin & Co. 1895.
1. IN order to avoid any misconception, it may be well to state in the forefront of our remarks upon this book that from cover to cover Ireland is scarcely mentioned at all, and then only in the most casual way. At first this may not appear strange, as the title-page of the work bears the caption—"The Climates and Baths of Great Britain," and this geographical expression has so far never proved elastic enough to embrace Ireland. "Great Britain and Ireland" is, of course, the rightful legal designation of the British Islands, or the United Kingdom. Why then do we allude to an omission which is apparently a matter of course in the circumstances of the case? The opening paragraph of the Preface answers this question. It runs as follows:—

"At a meeting of the Council of the Royal Medical and Chirurgical Society, held on May 14th, 1889, Sir Edward Sieveking in the chair, it was resolved, on the motion of Dr. Barnes, seconded by Dr. Ord—'That a scientific committee be appointed for the purpose of investigating questions of importance, in reference to the climatology and balneology of Great Britain and Ireland, and to report thereon to the Council from time to time, *with power to add to their numbers.*'"

We have ventured to italicise a few words in this quotation, which seems to imply that the intention of the Society, in May, 1889, was to include Ireland in the scope of inquiry entrusted to the committee, and presumably to co-opt as members of that committee representatives of this country.

It is quite true that the volume before us is only an instalment of a great and comprehensive work. In respect of climatology, the inquiries made by the committee so far relate chiefly to the south coast of England, from Land's End to the North Foreland. In respect of balneology, the Reports embodied in the present volume refer to the more important spas of Great Britain, and "the committee hopes to deal in a further Report with the climatology of the remaining districts, and with those mineral springs which are not included in the present volume."

But, surely, it was the duty of the committee to take steps to obtain information from Ireland from the very first, even supposing that information was not to be used for an indefinite time. We are told that, "having received the mandate of the Council" (included in the resolution already quoted), "the committee proceeded to institute inquiries of a general character. It formulated letters to be addressed to medical men practising in the more important climatic resorts and in the more important bath-places. It also drew up a form of inquiry to be addressed to medical men connected with the smaller spas."

We should like to know how many of these letters and forms of inquiry crossed the Irish Sea, the North Channel, and St. George's Channel.

It is further stated that "after the issue of such letters of inquiry, the committee decided to intrust to certain of its members the personal investigation of districts having

important climatic value, and of the several bath-places." Not one Irishman appears in the list of committee "as at present constituted," and there is no evidence that a single member of that committee summoned up courage to cross the "silver streak" in order to undertake "the personal investigation of districts having important climatic value," such as Portrush, Rostrevor, Howth, Bray, Killiney, Greystones, Tramore, Glengarriff, Kilkee, or Bundoran, and of the bath-places in this country.

However, we are inclined to think that the spas of Lidoonvarna and Lucan have had rather an escape when we read the following superficial, sketchy description of Moffat, the geographical position of which is not even hinted at, perhaps out of compliment to the erudition of the professional or general reader of the work:—

"Moffat is beautifully situated, with delightful air. The climate is decidedly rainy.

"There is a weak sulphur spring about a mile and a quarter up the valley.

"There is a weak, very pleasantly tasting, chalybeate water, which is obtained from a spring some miles away. The water is of varying strength, and is brought in stone jars to the village chemist, who dispenses it.

"There are two hotels in the town, and an antiquated set of baths.

"There is a large so-called hydropathic establishment, in which there is a very good Turkish bath.

"There is no sulphur-water treatment whatever at the hydropathic establishment.

"There are several lodging-houses and villas.

"**DISEASES.**—Cases of slight anaemia are said to improve satisfactorily, and also constipation, particularly in those who have been for years in India or other tropical climates."

Having said so much in dispraise, we gladly turn to the more grateful portion of our task—namely, the pointing out of the merits which the book undoubtedly possesses.

It has been already stated that the volume relates almost entirely to the south of England, various portions of which wide district are described in successive sections. After some brief introductory remarks on the climates of the south

of England by Dr. W. M. Ord, the chairman of the committee, Dr. W. Howship Dickinson contributes a full account of the climate of Cornwall, dividing his subject under the headings—general physical characters of the county, the therapeutical and pathological influences of Cornwall as a whole, and of several places in the county considered separately, the Scilly Islands, and general conclusions.

Dr. E. Symes Thompson and Dr. W. S. Lazarus-Barlow write on the climate of Devonshire and on that of the Channel Islands. The authors do not appear to be practical meteorologists, and hence, perhaps, it is that they are a little weak in climatology. For example, the mean annual height of the barometer is given as 29.988 inches at Exeter, 29.907 at Plymouth, 29.899 at Barnstaple, and 29.635 at Torquay. Commenting upon the climate of the last-named place, they observe—"The average barometric pressure at Torquay is somewhat low, being only 29.635 inches, nor are there any very great differences when the months are individually examined. This lowness of barometer is accompanied by a rather high average rainfall, 34.68 inches, rain falling on 187 days in the year" (page 89). Now in each case the barometer reading is said to have been "corrected," but it is clear that this cannot be so, for altitude at all events, for a difference of a quarter of an inch in atmospheric pressure at sea-level between Plymouth or Barnstaple and Torquay in favour of the first-named places would lead to a continuous heavy gale from N. over Devonshire—a state of things which is plainly non-existent. Of course, the discrepancy in the respective values is explained by supposing that the Observatory at Torquay is situated some 250 feet above sea-level, and that the readings of the barometer taken at it have not been corrected for altitude. The Exeter mean pressure seems to be too high, but the observations were taken in the years 1849 to 1860, when scientific accuracy was not always forthcoming.

Again, in their account of the meteorology of the Channel Islands, the authors state that "the natural formation of Jersey protects it largely from northerly winds," as if this were a desideratum—the fact being that in winter, at all

events, the most piercing cold reaches the island with the S. or S.E. anticyclonic winds, which have crossed the frozen mainland of France. It is also quite unscientific to write—"easterly and north-easterly winds are foretold by a high barometer" (page 107).

We have nothing but praise for the manner in which Dr. J. Mitchell Bruce has described the climates of Somersetshire, Hampshire, and the Isle of Wight. It is noteworthy that the author has repeatedly to deplore the scantiness of the meteorological information which was at his disposal. His Reports on the value of Bournemouth and of Ventnor as health-resorts are especially full and valuable.

The compilation of the greater portion of the volume has fallen to the lot of Dr. William Ewart, who gives a detailed account of the climate of the south-eastern counties—Surrey, Sussex, and Kent. His Report runs to 272 pages of large octavo, and is in a great measure based upon information courteously furnished by a number of local physicians and surgeons in response to the Society's circulars. In some introductory remarks on the scope of his Report, Dr. Ewart admits that mildness of temperature and fair equability are shared by both halves of the southern district of England, but a practical advantage is secured to the south-east, owing to its vicinity to London; its geographical position points it out as a health-district for the Metropolis.

The three south-eastern counties—Kent, Surrey, and Sussex—taken together, present well-defined boundaries—to the north, the river Thames, the estuary of the Thames, and the open sea; to the east, the North Sea; to the south, the English Channel. The territory in question is divided into three natural regions—(1) a broad strip between the North Downs and the Thames, a region which includes the north-easterly portion of Kent; (2) the Weald, a great central valley, which, with its inland hills and woodlands, its undefended shore, and its submarine forests, spreads over a limited portion of Surrey and over a great part of Sussex and of Kent, sloping into the sea at a huge gap between the cliffs of Beachy Head and of Folkestone; and (3) the Sussex coast south of the Downs. Dr. Ewart discusses the physical and climatic characters, the geology, the "orology," the

hydrography, and the medical climatology of all three districts; and afterwards he writes in detail on the climate of each of the south-eastern counties—Surrey, Sussex, and Kent.

The concluding part of the volume is devoted to the medicinal springs of Great Britain. We cannot help thinking that it would have been a better plan to have postponed this portion of the work until the climates of the remaining districts had been described. This would, at least, have been the more rational and systematic arrangement. Bath and Buxton are described by Drs. Ord and A. E. Garrod; Matlock, Bakewell, and Stoney Middleton, by Dr. Garrod; Harrogate, by Mr. Malcolm Morris and Dr. F. Penrose; Droitwich, Nantwich, Stafford, and Saltburn-on-Sea, Leamington, Cheltenham and Tunbridge Wells—all by Dr. Garrod; Woodhall Spa and Ashby-de-la-Zouch, by Dr. Robert Barnes; Strathpeffer, by Mr. Malcolm Morris and Dr. F. Penrose; Moffat, by Mr. Malcolm Morris; and the Welsh spas of Llandrindod, Llanwrtyd, Llangammarch, and Builth, by Dr. Frederick Roberts. There is, besides, a brief account of Askern Spa, near Doncaster, in the West Riding of Yorkshire, chiefly based on a paper communicated to the Chemical Society of London in 1893, by Mr. C. H. Bothamley, F.C.S., F.I.C.

Although we have criticised unfavourably some points in this work, we freely admit that, when completed, it promises to be one of considerable merit and of great value. Writing in Ireland, we may express the hope that effect will be given to the original intention of the Medico-Chirurgical Society to include this country within the scope of the work. May we suggest, in conclusion, that, in such an event, the names of two or three Irishmen should be added to the committee, notwithstanding its already large size, in order to give to the undertaking a truly national character, and to secure an accurate description of the climate, watering-places, and spas of Ireland.

The price of the volume is twenty-one shillings net. It is illustrated by an excellent map of the south of England, by Stanford, of London, as well as by a coloured chart showing the annual death-rate per 100,000 persons in

Brighton, for a series of 22 years. Numerous tables, also, are scattered through the volume.

2. WE are very pleased to note that "the kindly and generous reception accorded to the first edition" of Mr. Flinn's little volume has enabled him to produce this comparatively early re-issue. "The volume has to a great extent been re-written, and numerous illustrations have been inserted, as well as several additional chapters." We cordially hope that by this time the important subject-matter of this work has so far engaged the attention of the educated and intelligent sections of the general public, as well as of the professional members of it, that Mr. Flinn's book will be more generally read than even before, and that a third edition will rapidly be called for, which we would like to see greatly expanded. It is sad to think that while our fellow-countrymen are so continuously crying out for the good things which Providence has placed out of their reach, they have been negligent of the utilisation of so many of the priceless boons which Nature has placed within their grasp. Whose fault is it that some of the most delectable health-resorts in the world are to be found in this country, the value and attraction of some of which were known and appreciated even more than a century ago, and respecting which a conspiracy of silence and neglect would appear to have been formed by the authors, physicians, hotel-keepers, and railway directors of Ireland during the period of a couple of past generations? In the days of Addison, Swift, and Mrs. Delany, the value of the waters of the Lucan Spa, and the attractions of its surroundings were fully appreciated and enjoyed by some of the most brilliant specimens of genius and culture which the human race has, up to the present, produced. Arthur Young visited Mallow on the 13th of September, 1776, and has left this note in the very interesting and instructive record of his "Tour":—

"I walked to the spring in the town to drink the water, *to which so many people have long resort* [the italics are ours]; it resembles that of Bristol, prescribed for the same cases, *and with great success*. In the season there are two assemblies a week. Lodgings are five

shillings a week each room, and these seemed to be miserably bad. Board thirteen shillings a week. These prices in so cheap a country amazed me, and would, I should fear, prevent Mallow from being so considerable, as more reasonable rates might make it, unless accommodations more proportionable were provided. There is a small canal, with walks on each side, leading to the spring, under cover of some very noble poplars. If a double row of good lodgings were erected here, with public rooms, in an elegant style, Mallow *would probably become a place for amusement as well as health.*"

We would suggest the perusal of this passage to the physicians and house-owners of Mallow at the present day. Boate, in his *Natural History of Ireland*, mentions the case of a young man of the time of Charles II., who, "having eight or ten scrophulous ulcers running on him, attended with a total loss of flesh and strength, had been touched by the king, and used all imaginable means for his recovery without effect"—was afterwards completely cured by bathing in the waters of Lough Neagh. Are the waters of Lough Neagh ever recommended for their curative properties now? In his very interesting and instructive treatise of "Mineral Waters," published while Arthur Young was still on his "Tour" in Ireland, Dr. John Rutty gives the chemical and medicinal properties of a "water," situated "about a quarter of a mile from Athlone, on Connaught side, and so in the County of Roscommon." "It is a chalybeate of considerable strength, impregnated also with a little nitre Its operation is diuretic. It appears, on trials made of its good effects for three years past, since the year 1747, to be possessed of very considerable virtues, and to have effected cures out of the reach of the common pharmaceutic medicines." And the author gives a series of illustrative cases. Does anybody ever use the waters of the Athlone chalybeate-diuretic springs now? Echo answers! The present reviewer spent the first twenty years of his life in the County of Roscommon, and never heard of this medicinal fountain. But he does not believe that it has dried up. The waters of "Swadlingbar"—now Swanlinbar—were famous in the first half of the last century, and attracted many visitors. The only medicinal

wonders we hear of from that part of Ireland now are those of the M'Govern treatment of hydrophobia. There is something rotten in the state of things which leads to such results. Mr. Edgar Flinn deserves our best thanks for his endeavours to induce his countrymen to avail themselves of the treasures which exist in the—not unexplored, but forgotten—Irish Health-resorts. We hope, and sincerely pray, that his call will be responded to. One of the symptoms of the fruitfulness of his labours to which we will look forward will be a new edition of this volume—of, at least, double the size. The present *brochure* is well bound, beautifully printed, and tastefully illustrated. But it is far too small for so large a subject. We heartily congratulate the author on what he has done, so far as he has gone, and trust that he will follow up his self-imposed task of re-introducing to the world the long-neglected value and attractions of the Irish springs and watering-places.

Diphtheria and its Associates. By LENNOX BROWNE, F.R.C.S., Ed.; Senior Surgeon to the Central London Throat, Nose, and Ear Hospital; late President of the British Laryngological Association; Corresponding Fellow of the American Laryngological Association. Author of "The Throat and Nose, and their Diseases," &c. Illustrated by the author. London: Baillière, Tindall & Cox. Philadelphia: J. B. Lippincott Company. 1895. 8vo. Pp. 272.

THE most striking feature in this work—apart from the individuality of the author, which is impressed on every page—is the excellence of the illustrations. These consist of a series of drawings of the appearances presented by diphtheria as it affects the fauces, posterior nares, and larynx; and also by pseudo-diphtheria—the author's definition of which term we shall presently quote. These drawings, in Mr. Lennox Browne's opinion, and we agree with him—"have been very faithfully rendered by Messrs. Scott & Ferguson of Edinburgh," whose "setting" of the work is in all respects admirable. In addition to the coloured lithographs, a number of photo-micrographs have been "processed" with great exactitude by Mr. Carl Hentschel. These photo-

micrographs have been obtained by Mr. Lees Curtis, of Messrs. Baker & Co., from microscopic slides prepared by the Clinical Research Association, which body undertook the bacteriological examination of the cultures Mr. Lennox Browne had made.

The author begins with a definition :—"Diphtheria," he writes, "is an acute infectious disease due to the presence of a specific micro-organism (the Klebs-Loeffler bacillus)." This definition is simplicity itself, and the most captious critic can find no fault with it. When this specific bacillus constitutes the *sole* micro-organism present, the disease is simple or pure, and may be termed "simple bacillary diphtheria." When other micro-organisms—chiefly cocci—are associated with the Klebs-Loeffler bacillus, the diphtheria is complex or impure, and may be called "complex or cocco-bacillary diphtheria."

The term pseudo-diphtheria, or false diphtheria, represents an affection of the throat resembling true diphtheria, but distinguished from either its simple or complex form by the conspicuous absence of the specific bacillus. The author thinks it may be called "non-bacillary diphtheria," but why call it diphtheria at all if it be not that disease?

Lastly, Mr. Lennox Browne points out that the term pseudo-diphtheria has also been erroneously applied to an affection of the throat characterised by the presence of an organism identical with the Klebs-Loeffler bacillus in every respect save that of virulence. A preferable term would be "non-virulent diphtheria."

In his Essay Mr. Browne applies the terms "diphtheria," "diphtherial," and "diphtheric" (*sic*) exclusively to the phenomena caused by the presence of the Klebs-Loeffler bacillus, whether present alone or in association with other micro-organisms.

The morbid influence of diphtheria, due to its microbial origin, is shown in three distinct directions :—"First, as an inflammatory process, accompanied by an exudation of false membrane," usually deposited on the tonsils and fauces, but extending thence to the nares, ears (through the Eustachian tubes), larynx, trachea and bronchi, and rarely involving the oesophagus and stomach; secondly, as a systemic intoxication,

caused by the poisonous qualities and products of the specific bacillus; thirdly, as phlegmonous and pyæmic processes, due to the presence of associated pathogenic micro-organisms, especially streptococci and staphylococci.

Pseudo-diphtheria (false, or non-bacillary diphtheria)—in other words, croupous inflammation—"is distinguished by the absence of the specific toxæmia, though both the inflammatory and pyæmic processes may be exhibited in equal intensity with those of the true disease."

Such is the author's "synopsis" of his subject.

The work consists of thirteen chapters, an appendix, which resembles the postscript to a lady's letter in containing some of the most interesting and important matter in the book, seeing that it is devoted to the serum treatment of diphtheria; an index of literary references, and a general index.

Chapter I. gives a somewhat sketchy history of diphtheria from B.C. 750 to A.D. 1884, "a year made memorable by the discovery, or rather by the recognition and acceptance, of a specific organism of the disease—namely, the Klebs-Loeffler bacillus. This circumstance settled not only the question in favour of the non-identity of all forms of membranous inflammations of the upper air-passages, but also that of the local origin of diphtheria" (page 10).

The author proceeds in successive chapters to discuss the ætiology of diphtheria (Chapters II.-IV.), its pathology (Chapter V.), the bacteriological diagnosis of the disease and its associates (Chapter VI.), the clinical diagnosis (Chapter VII.), the elements of prognosis in diphtheria (Chapter IX.), the general, local, and operative treatment of diphtheria and its associates (Chapter X.), and the hygiene and prophylaxis of the disease (Chapter XII.).

Chapter VIII. contains a record of illustrative cases of diphtheria and its associates. The letterpress is beautifully illustrated by drawings from nature and by photomicrographs, showing the results of the bacteriological examination in nearly every case.

In Chapter XI. an account is given of "Croup," which is defined as a pseudo-membranous exudation of the "larynx and trachea, which may be classified on exactly the same lines as diphtheria in the fauces. We shall thus have:—

- “(1.) Pure, simple, or bacillary croup.
- “(2.) Impure, complex, or coco-bacillary croup.
- “(3.) Pseudo, false, or non-bacillary croup.

“Croup is rarely primary in the larynx, being usually exhibited as a downward extension of the membrane from the fauces, when it is called *descending*. . . . An *ascending* form of croup, otherwise an upward extension of membrane from the bronchi to the larynx, has also been described, but it is difficult of proof. In any case it must be rare” (pages 179 and 180).

Mr. Lennox Browne's description of intubation and of tracheotomy in laryngeal diphtheria is worthy of close study. Of the latter operation he observes—“This is a procedure which is each year viewed more favourably, mainly because the indications for its performance are becoming better appreciated, and we are now able to assure the relatives of a patient that, when adopted sufficiently early, the chances of success are much greater than formerly” (page 194).

We have already referred to the fact that an account of the serum treatment of diphtheria has been relegated to an Appendix. In a “Prefatory Note” the author explains this rather anomalous arrangement. “Serum treatment,” he states, “is said to be still on its trial, and on this account as well as in view of the facts to be recorded, we do not feel justified in giving it a position as an integral portion of our therapeutic resource alongside of the older, well-tried, and well-established methods of the classical treatment of diphtheria” (page 228). The discussion on the antitoxin treatment of diphtheria, which took place in the Section of Medicine of the British Medical Association on Wednesday, July 31, 1895, may be said to have set at rest the question of the utility of this therapeutic method. And we cannot but think that Mr. Lennox Browne's position has become untenable in the face of the facts adduced in the course of that discussion by Dr. Sidney Martin, Professor Dr. von Ranke, of the University of Munich; Professor Dr. A. Baginsky, of the University of Berlin; and Dr. Hermann Biggs, Bacteriologist to the Board of Health, New York.

It is due to Mr. Lennox Browne, however, to state that

his account of the serum treatment is in all respects admirable, and strictly impartial.

Taking it all in all, the work before us is a monograph of sterling merit. It is bound to have more than a mere passing repute, and, in our opinion, it will add to its author's already conspicuous literary and professional fame.

The Guide to South Africa for the use of Tourists, Sportsmen, Invalids, and Settlers. Edited annually by A. SAMLER BROWN and G. GORDON BROWN. London: Sampson Low, Marston & Co. (Limited). 1895. 8vo. Pp. 356.

WHEN "Brown's South Africa" was first published we had much pleasure in drawing attention to the many excellencies of the work. We are now promised a yearly revision of the Guide by Messrs. A. Samler Brown and G. Gordon Brown, who have undertaken their useful task for the Castle Mail Packet Company, and have accomplished it with conspicuous success.

Part I. of the book supplies the tourist, sportsman, invalid, or settler, as the case may be, with general information, particularly with regard to the voyage to South Africa, the climate and topography of the different states, their area, population, and resources, the imports and exports, mining, industries, sport, and history. Part II. is a general gazetteer, and describes the principal routes from Cape Town through the South African States.

At the end of the book there is a list of the books which treat of South Africa, also one of directories and works of reference, newspapers and magazines, maps and atlases. Mention of these last-named reminds us to draw attention to the splendid series of maps—twelve in number—which illustrate the guide-book. The first of the series is a general map of South Africa. Then follow climatological, rainfall, physical, geological, and ethnological maps; and these are succeeded in turn by six sectional maps, a key to which is included in the general map already referred to.

This brief synopsis will show the wide-spread scope of Brown's Guide to South Africa. It is, in our opinion, a

book which is simply indispensable to the traveller who avails himself of the luxurious route to the Cape provided by the Castle Royal Mail Packet Company.

Wright's Visiting Lists. Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S. Third Edition. Copyright—registered. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited; Hirschfeld Bros., 82 High Holborn.

Two editions of the popular Visiting List compiled by Mr. Robert Simpson, and published by Messrs. John Wright & Co., of Bristol, lie before us. One is the edition for 1896, the paper in which has been improved, and a blue cast given to it to increase its opacity. This change of tint is of questionable utility. It certainly renders the reading of the entries in the visiting list more trying to the eyes. The pockets of the wallet into which the visiting list is bound have been made stronger compared with previous editions. The edges of the book are now gilt, and the spaces for recording visits have been slightly increased in size.

The other edition of the Visiting List has been printed without dates, the pages for recording visits being put up in the *perpetual* form. This edition is issued with white paper, which, to our mind, is much clearer and more suitable for its purpose than the blue paper of the 1896 edition.

In noticing the previous editions of Wright's Visiting List, we drew attention to the salient features of this publication. It is not necessary, therefore, to do more on the present occasion than to state that this publication is one of the handiest and best of its kind. It costs five shillings and sixpence, but is worth the money.

RECOVERY AFTER LARGE DOSE OF CARBOLIC ACID.

R. E. LEWIS, M.D., records (*Medical News*, Philadelphia, LXVI., 23) the recovery of a girl of 18, after taking half an ounce of carbolic acid in a cup of water; an hour and three-quarters elapsing before treatment was commenced.

PART III. SPECIAL REPORTS.

REPORT ON PUBLIC HEALTH.*

By SIR CHARLES A. CAMERON, M.D.; D.P.H., Camb.; M.R.C.P.I.; Ex-President, Hon. Dip. Public Health, and Professor of Hygiene and Chemistry, R.C.S.I.; ex-President of the Society of Public Analysts; Medical Officer of Health for Dublin; Hon. Member of the Hygienic Societies of France, Belgium, Paris, Bordeaux, the Academy of Medicine, Sweden, and of the State Medical Society of California, &c.; Examiner in Sanitary Science, Royal University of Ireland; Member of the Army Sanitary Committee.

POISONING BY INGESTION OF STALE EGGS.

ON Wednesday, July 30, 1895, 74 ladies in a convent in Limerick became unwell shortly after dining. The ladies were nuns and girl-pupils in a boarding school attached to the convent. The chief symptoms exhibited by the patients were vomiting and purging of a severe type. The illness in most of the cases extended over many days. Many of the patients had relapses, and several of them were for more than a week in a precarious condition. Four of the sufferers died, one of them on the fifteenth day of her illness. The most striking *post-mortem* appearance was the complete absence of blood from the heart.

It was not until the 5th of July that the gravity of the outbreak was realised; and on that day it was suspected that poison had accidentally been introduced into some of the articles used at the dinner. The latter consisted of mutton and a custard, composed of eggs, milk, corn flour and sugar. Suspicion fell upon the corn flour, into

* The author of this Report will be glad to receive any books, pamphlets, or papers relating to hygiene, dietetics, &c. They may be forwarded through the agencies of the Journal.

which it was conjectured arsenic might have been accidentally put. A specimen was sent to me for analysis, and was found to be free from poison of any kind and to be of good quality. I telegraphed that portions of everything that remained over from the dinner should be sent to me, but, unfortunately, the only constituents of the meal which were available for analysis were the corn flour and sugar, both of which were pure.

I next received portions of matter vomited and passed by the patients. They were intensely green from presence of biliary matter. A careful analysis for the detection of ordinary poisons was made, but with negative results.

The viscera of two of the patients who had succumbed to the attack were next examined, but no ordinary poison was found in them.

As it now seemed very clear that I had to deal with a case of ptomain-poisoning, I made an attempt to isolate the ptomain, though with but little hope of success, and for the following reason:—The patients who had vomited and passed the matter sent to me on Friday had been ill for two days before the stuff ejected by them had been collected for examination. By that time the greater portion of the *materies morbi* had been ejected from their systems, though the effects of the poison might have continued unabated. The result of the search for ptomains proved that one or more were present, but in quantity far too small to admit of full examination. Similarly the viscera and their contents yielded a substance which gave all the characteristic reactions of the ptomains, but no quantitative examination could be made owing to the want of sufficient material.

In a preliminary Report on the case I suggested that, as it was evidently one of ptomain-poisoning, the most careful inquiries should be made in order to ascertain which of the constituents of the dinner caused the illness.

The meat used at the dinner was mutton, and the evidence in relation to it was favourable; no one complained of its flavour. The police obtained the names and addresses of all the persons who had purchased the various parts of the carcase, of which a portion had been furnished to the convent, and ascertained that in no instance had the persons who had

eaten the mutton suffered therefrom. Two of the inmates of the convent who ate the mutton but did not use any of the custard escaped the illness.

The cook who prepared the custard gave the following account of her *modus operandi*.

"Tuesday, July 2nd, I took 4 quarts of skimmed milk of previous night, boiled it, added about $\frac{1}{2}$ lb. loaf sugar, added 2 tablespoonfuls of corn flour, and boiled again, this was done in a tin vessel. At 3 or 4 p.m., resumed making of custard. Beat up 8 or 10 eggs, all fresh except one which had a reddish brown colour, but no bad smell; poured them into the milk which was then about the temperature of tea, and then poured it into an earthenware bowl; removed to a cold place during the night. On Wednesday, July 3rd, 9 a.m., the custard had become quite thin, of the consistence of cream. Poured it over 7 or 8 quarts of strawberries, about $1\frac{1}{2}$ quarts of which had been gathered on the previous night. Whipped the whites of eggs used above, with 1 lb. of sifted sugar and spread over strawberries and custard on glass dishes."

That the strawberries did not cause the illness is proved by the fact that three or four of the affected persons did not take strawberries with their custard; the inquiry, therefore, was narrowed to the question—was the poison in the milk or the eggs? I came to the conclusion that it was in the eggs. It seems that some surprise was manifested by the custard remaining thin. When I learned this fact, I thought that the fluidity might have been caused by the liquefying influence which malignant bacilli exercise on albuminous and gelatinous substances, but the rapidity of their action in this particular case seemed surprising. I, however, proceeded to make an experiment with the view of ascertaining whether or not the fluidity was due to micro-organisms or to defects of cooking. I had a custard made in exactly the same manner as above described, and I found that it did not become thick and firm. Another custard, similarly prepared, but heated after the addition of the eggs, became quite firm. It was evident then that if the Limerick custard had been heated after the addition of the eggs (as should have been the case), the albuminoids of the eggs would have been coagulated and the custard would not have readily fermented. It is an established fact that the custard was in part composed

of eggs which had practically not been cooked, as their albumin was still fluid. The white of the eggs was also added in an uncooked state to the custard.

That a highly poisonous substance—*tyrotoxicon*—is generated in milk, not necessarily very stale, is well known. The milk used in the custard was skimmed, and was a day old when incorporated with the custard, and two days old when eaten. It was, however, boiled twice, and therefore was not at all likely to be in a state of fermentation.

Suspicion falls strongly upon the eggs. They were market eggs and were some days in the convent. An ecclesiastic of high rank, who visited the convent and made careful inquiries as regards the eggs, informed me that they were "more or less stale." One of the eggs about to be used in making the custard was found to be utterly bad and was thrown out. One of the eggs put into the custard was described by the cook as "reddish brown," another person said that it had a claret colour, and a third person thought that it was "cracked"; it certainly was not a good egg. The eggs having been added to the milk, sugar, and corn flour, the mixture, having then the "temperature of tea," was kept until dinner next day. The fluid condition of the mixture was favourable to the fermentation process, as was also its temperature at first. The weather was warm, as might be expected in July, and the eggs being more or less stale, and one undoubtedly abnormal, a septic condition was soon produced in them. Some of the ladies noticed a peculiarity in the custard.

I am informed that the custard which remained after the fatal dinner was given to pigs and produced in them severe diarrhoea.

An inquest was held in connection with this case, and the coroner's jury found a verdict in accordance with my evidence. It is to be regretted that none of the custard was available for analysis.

A case of poisoning caused by stale eggs is recorded by Dr. Marshall in the *Gazette Médicale de Paris*, 1839.

FOOD FOR DIABETIC PATIENTS.

It is usual in the case of patients suffering from diabetes to either altogether prohibit them from using breadstuffs, or

to limit them to a small allowance of toasted bread. To many such patients this prohibition is a great trial, and is sometimes, when no bread at all is allowed, somewhat injurious to the general health of the patient, even if the denial of a favourite food lessens the production of sugar. The market is flooded with various kinds of bread for diabetic patients; but though they are supposed to contain very little carbohydrates, they are in most cases richer in starch than in any other constituent. One of the best substitutes for wheat flour in the preparation of bread is almond meal (Dr. Pavys suggestion), but it is expensive, and it requires great skill to prepare it in a digestible form. Prout's bran-bread is a rather indigestible food, and possesses but little flavour.

Dr. Heinrich Stern, of New York, suggests pea-nut meal as a pleasant and nutritive food in diabetes. The pea-nut enjoys in addition to its scientific cognomen (*Arachis hypogaea*) a variety of aliases such as ground-nut, larch-nut, ground-pea, goober, pendar, &c. It is an annual plant attaining to a height of two feet or so, and it possesses the property of being able to push its fruit beneath the soil, where it sometimes remains all the winter. It does not form a true nut, but rather pods of from one to two inches long, and having a yellow colour.

The chemical composition of the pea-nut shows it to contain 35 per cent. of albuminoids, 55 per cent. of fats, and 12 to 14 per cent. of carbohydrates. By pressure most of the oil is extracted, and the residual meal then contains about 52 per cent. of albuminoids, 8 per cent. of fats, and 27 per cent. of carbohydrates. It possesses a pleasant flavour, and constitutes, according to Dr. Stern, not only an excellent food for diabetic patients, but also for those suffering from tuberculosis. Dr. Stern's experience of the food shows very favourable results.

ACTION OF TEA ON THE DIGESTIVE ORGANS.

Dr. Peter M'Kechnie, of Talawakela, Colombo, has made some interesting experiments on the action of tea on the organs of digestion. The experiments were carried out partly in test tubes, partly in the stomach of a monkey, access to which was formed by a fistula.

The aliments experimented with consisted of egg-albumin

and beef-fibre. Weighed quantities of each were used and were mixed with glycerol extract of pepsin and hydrochloric acid. To these mixtures a measured quantity of infusion of tea was added. The infusion of the tea occupied periods varying from five to twenty minutes. Six test tubes were used, a seventh being employed to test the action of the tea on meat-fibre alone. That process lasted 110 minutes before the meat-fibre was dissolved. Experiments with the tea infusion showed that the digestion of the mixture occupied 118.5 minutes. The time was not affected by difference of strength of the infusions of tea. Tea from which its tannic acid had been precipitated by means of gelatin, was not more readily digested than ordinary tea.

In the case of the monkey, it was found that when the ingesta were altogether introduced through the mouth, digestion occupied five minutes longer than when the ingesta, except the tea, were introduced through the mouth and the tea by the fistulous opening into the stomach. From this it is to be inferred that the tea exerted an inhibitory influence on the salivary glands. The author is of opinion that it is not the tannic acid but some of the more soluble constituents of tea which retard digestion.

The comparative values of different kind of teas were investigated. The Indian and Ceylon teas yielded the greater proportions of extract—i.e., made stronger infusions than the Chinese teas. Digestion took place more rapidly when the stronger infusions were used. The author believes that the larger proportion of caffein in the Ceylon and Indian teas as compared with the Chinese teas is the cause of the more easy digestion of the former, the caffein acting as a stimulant to the motor nerves, and increasing the flow of bile and stimulating peristaltic action.

Dr. M'Kechnie does not share the somewhat general belief that on the whole tea is not a wholesome beverage. I agree with this opinion. Since the general use of tea has been adopted in these countries, the state of public health has not deteriorated, but on the contrary has improved. Dr. E. Smith, in his work on Health and Disease, &c. (London: Walton & Maberly, 1861), says of tea, that "it has both lessened the supply of nutriment and made better use of that which is supplied, and hence it has contributed most powerfully

to the prevention of accumulations within the system, and the most perfect discharge of effete matter.

Dr. M'Kechnie deprecates the practice of infusing tea for more than five minutes, and states that by twenty minutes infusion the tea yields a much less wholesome beverage than if it were infused for a moderate time. As the tannin of tea being very soluble soon goes into solution, it would be interesting to determine the nature of the body or bodies which are dissolved out by long-continued digestion and which have a bitter flavour.

SEWER VENTILATION.

There appears to be growing steadily a reaction against the theory that it is necessary to ventilate main sewers by openings into them from the streets. These sewer ventilators are the cause of constant complaints from the persons whose residences are close to them, and there is the clearest evidence that foul emanations occasionally take place from them. That there is a pretty general belief in the possibility of sewer ventilators being dangerous to the health of persons residing close to them, is proved by the various suggestions which have been made to supersede them. It has been proposed to pass tubes from the sewers into the lamp-posts so that the sewer gases might be subjected to a high temperature in the gas flame and be thereby rendered innocuous. Iron ventilating shafts have been erected in several towns, and in most instances run up the front of houses. To my mind an opening into a street sewer is only a little less dangerous than an opening from a drain into a house.

The objects sought to be accomplished by sewer ventilation are—(1) to prevent the traps on house drains being forced by the high pressure of the sewer air; (2) to render the sewer air innocuous.

As to the assumed high pressure in unventilated sewers, it is doubtful if such a state of things ever exists except when it is caused by the action of a strong wind on the air of the sewer. My experiments show that in the Dublin sewers there is no pressure. As regards introducing fresh air into sewers, Mr. Baldwin Latham has truly said that whenever outer air enters a sewer, it displaces an equal volume of foul air which,

of course, must pass into the atmosphere, and, perhaps, at very undesirable points.

At a meeting of the Midland Branch of the Incorporated Society of Medical Officers of Health, held at Cheltenham on the 4th July, 1895, Doctor Bostock Hill read a paper on "The Possible Dangers of Certain methods of Ventilating Sewers." He described an "outbreak of poisoning" among inhabitants of Wylde Green Ward, Sutton, Coldfield, which he attributed to emanations from a sewer ventilator acting in an indirect manner. It appears that about 100 persons who had been supplied gratuitously with soup from the Wylde Green Hotel sickened. The soup had been prepared from a large piece of salted beef together with the broth in which a rabbit had been boiled, and some pearl barley, pea flour, and vegetables. The rabbit had been eaten on the day previous to that on which the soup was used, but it did not cause any unpleasant symptoms. The broth was examined for the ordinary poisons, but with negative results. The soup had not undergone putrefactive changes. After a careful investigation Dr. Hill came to the conclusion that the soup had absorbed emanations from a sewer ventilator. The soup was prepared on a Friday afternoon, and allowed to remain in a boiler, loosely covered, in an out-house until 11 o'clock on the following day. The ventilating pipe from the house-drain ran up the side of the out-house near the boiler, and another ventilator placed against the wall of the hotel was in free communication with the street sewer. Dr. Hill considers that emanations from these ventilators might have passed up through the ventilator into the air surrounding the boiler, and have been absorbed by the soup. In the stable next the out-house there was a drain grating—here there was a possible escape of sewer gas.

Although about 100 persons became ill, only one of them died. A portion of the soup was submitted to Dr. Klein for examination, who reported as follows:—

"On January 24th, I received a glass jar of fluid material, tied with a membrane. The material in the jar had, on opening, a sour smell, and gave a strong acid reaction. It was a thick film, containing various vegetables, fat, and bits of flesh. Under the

microscope, besides these substances, there was seen a multitude of microbes; in fact, the whole material was crowded with them. Amongst these could be recognised various forms of bacilli differing from one another in length, and numerous yeast cells. Cultivations were at once made, so as to isolate the microbe. These cultivations yielded the following microbes in colonies: (1) Torula or yeast, very copiously present; (2) A short non-mobile bacillus, not liquefying gelatine, fairly abundant; (3) A bacillus, which proved on sub-culture to be closely related to the typical *Bacillus coli*—this microbe is the normal inhabitant of man and animals, and is a prominent microbe in sewage; in the soup it was present in considerable numbers; (4) A bacillus which also proved on sub-culture to be closely related to the *Bacillus coli*, but must be considered as a variety of the typical *Bacillus coli*. It is also a normal inhabitant of sewage, and was present in enormous numbers in the soup. Experiments were made with the soup and with the cultivations obtained from it:—(a) Feeding mice with the soup produced no ill-effect; this result does not prove much, since the time that had elapsed since the consumption by human beings at Wylde Green and the experiment made here was considerable, and as it is known that organic substances, poisonous at one time, lose their action when exposed to fermentative changes; (b) Inoculations of guinea pigs with cultures of the microbes (3) and (4), *Bacillus coli* and variety, proved these microbes to be virulent, particularly microbe (4), which is highly virulent; (c) Inoculation of guinea pigs with microbe (1) and (2) had no ill-effect; (d) Microbe (4) multiplies extremely rapidly in beef-broth kept at body temperature, that is, about 37 degs. C., which turned the broth very turbid in twenty-four hours, the broth being filled with microbes. In addition, there are present by this time numerous flocculi entirely made up of the bacilli. If the broth culture is subjected to filtration by which these bacilli are separated from the fluid, and this latter is injected in small quantities (0.5 c.c.) into guinea pigs, it is found that they die in from six to eight hours under symptoms of acute poisoning. From this it is then clear that this microbe is capable of rapidly forming in the broth a poisonous substance. In conclusion, from the foregoing observations the following conclusions can be drawn. (1) The soup contained microbes which were derived from sewage, and it is thereupon highly probable that the soup had been polluted with sewage. Amongst the microbes present in the soup the bacillus mentioned as a variety of the *Bacillus coli* is possessed of virulent properties on account of its extremely rapid multiplication at the body temperature, and the

poisonous substance it elaborates. It is most probable that this microbe caused the consumers of the soup the ill-effects and the disease. This bacillus, it will be remembered from the foregoing paragraph, was present in the soup in enormous numbers."

It is well known that gases can pass through bricks and unglazed porcelain, such as the cells used in the construction of galvanic batteries. It has occurred to me that cylinders of very porous earthenware placed on the crown of street sewers might take the place of the ventilating openings. The latter consist of an opening on the upper part of the sewer, which allows the free exchange of air between the interior of the sewer and a chamber formed beneath the surface of the roadway, but communicating with the street by means of a gully. If a diffusion cylinder replaced the opening into the sewer, the gases in the latter would slowly diffuse through it, and the outer air would pass through the cylinder into the sewer. No micro-organisms could, however, escape from the sewer air through the cylinder into the chamber, nor could gusts of foul air rush through it, as so often happens in the case of the present ventilators. The diffusion cylinder would certainly prevent pressure in the sewers. Messrs. Doulton & Co., of Lambeth, are making two dozen of the cylinders which I have described, and they will, when received in Dublin, be substituted for the present ventilators on a long line of street sewer. If the observations which will be made on the sewers show that the diffusion cylinders are capable of preventing pressure in the sewers, of sufficiently ventilating them, and of preventing the escape of foul air from the sewers into the street, then the diffusion system will be generally adopted in Dublin.

In the valuable and voluminous *Seventh Annual Report of the Metropolitan Board of Water Supply and Sewage of Sydney, New South Wales (1895)*, of which I have been favoured with a copy, the question of sewer ventilation is treated at some length. The open gullies in the street are evidently not regarded with favour—101 ventilating shafts had been erected, and tenders had been invited for the ventilation of 101 miles of sewers. The board are not apprehensive that micro-organisms will be discharged

out of these ventilators and pass into the houses through their upper windows.

POLLUTION OF PUMP WATER BY ATMOSPHERIC MICRO-ORGANISMS.

In an interesting communication which I have received from Mr. George Roe, Roscrea, he raises the question—May not pure water in wells worked by pumps become contaminated by micro-organisms drawn into it from the air from the surface of the ground and superficial soil layers? He considers that it would be better to draw the air which must enter the shaft of the well during the pumping operation from a point above the top of the pump. In the act of pumping, air is brought up from the surface of the well to that of the ground, and air to replace it descends from and near the surface. This latter air may be impure by being in contact with foul surface-water. Mr. Roe proposes to prevent this descent of possibly foul air by having a tube two inches in diameter attached to the pump and passing from its top to a point a few feet below the covering of the well, thereby establishing a free communication between the pure atmosphere and the well. The suggestion seems a good one, and it is to be hoped that some enterprising pump-maker will see his way to adopt it.

THE ORIGIN OF ENTERIC FEVER IN THE ARMY, ESPECIALLY IN INDIA.

A very valuable and suggestive paper on the above subject has been sent to me by my friend and former pupil, W. Keays, F.R.C.S.I., Surgeon-Major, Senior Medical Officer, Station Hospital, Darjeeling, Bengal. It will, I am sure, be read with interest:—

“In common with many other army medical officers the cause of enteric fever, which is so fatal to our young soldiers in India, has engaged my anxious attention for years past. On comparing the social and hygienic surroundings of the recruit with his compeers in civil life, the former is found to enjoy immense advantages. He is better housed, better clad, better fed, and, on the whole, his duties, whether engaged in service at home or abroad, are not so inimical to health as many of the trades and occupations of the

labouring population of England. But, although this general immunity from sickness and privation is undoubted, the young soldier, contrary to what would be expected, evinces a special susceptibility to enteric, especially in the tropics ; and in India this fever has become so frequent and fatal as to eclipse the maladies which formerly were most concerned with the mortality and non-effectiveness of our army. To what is this proneness to a particular disease due ? In India it occurs in cantonments, the sanitary conditions of which leave so little to be desired that it is usually impossible to trace an outbreak to any violation of the laws of health. During the campaign in Afghanistan it attacked our troops in camps and posts, which, in all human probability, were then occupied for the first time. It occurs with special prevalence in the hot, dry stations and seasons ; but appears to be inhibited by certain meteorological conditions—for example, low temperature, rainfall, limited atmosphere, &c.

“Food and drink partaken of in the native *Bozars* have been set down as a medium of conveying the infection ; but the prevalence of typhoid fever among the civil population of India requires proof. Assuming its existence, it is not clear why young soldiers should suffer more than other young Europeans, who have to rely on the country markets for their supplies, and who are in much closer contact with natives than soldiers are.

“Defective sanitation, no doubt, by deteriorating the general health predisposes to disease of this kind, but something more is obviously essential to its inception.

“At the outset of my professional career I had civil medical charge of a district in the west of Ireland. In this locality every hygienic law was violated. Each family occupied one end of a small, thatched house, and the other, without any intervening partition, was allocated to the domestic animals—cattle, pigs, poultry, &c. The dwellings, for the most part, were unprovided with chimneys or windows ; the earthen floors were saturated with organic filth of every kind ; and outside, within a few yards of the door (often close to the well which supplied the drinking water), was the inevitable dung-heap and putrefying cess-pit.

“During the year I resided there typhus fever was rampant and decimated the population ; but only a single case of typhoid occurred. The people were exceedingly simple in their habits, and subsisted chiefly on potatoes and milk. Again, some of the older, and less favourably situated, Indian stations are not more obnoxious to this complaint than many of the newer and, as regards sanitation, apparently perfect ones.

"On the other hand, it seems improbable that a micro-organism, introduced into the system, can generate the malady *per se* in healthy individuals; for, if so, the number of persons attacked ought to be infinitely greater than at present. The human intercourse, facilitated by modern means of locomotion; the commingling of communities in large towns; and the more or less common relationship to soil, drainage, air, water, and food supply should cause a wide diffusion of the bacillus, and the latter is now believed to be the specific entity of a disease which knows no geographical limits. The resisting power of the blood and tissues to the invasion of micro-organisms is well known; and with a healthy correlation subsisting between the processes underlying the transformation and assimilation of the food, the presence of the enteric germ is probably unattended with danger. But, should the normal adjustment of these vital functions be impaired, it is quite conceivable that infection may be facilitated to a corresponding extent. Such vulnerability would be a measure of the decreased phagocytosis of the blood, and may be induced by two sets of causes: First, from external agencies—as, for example, continued exposure to faulty sanitation, the entrance of sewer air into dwellings, contamination of food and drink by typhoid excreta, &c. Second, by auto-intoxication from poisons of the nature of leucomaines within the system in connection with the digestive tract. In both instances the effect, though it may vary in rapidity and intensity, would be similar—namely, toxæmic paresis of the protoplasm of the blood, and the consequent ascendancy of the infecting microbe.

"It will thus be inferred that the germ associated with the disease under discussion, though by no means rare, is only believed capable of assuming pathogenic properties under circumstances entailing a disordered condition of the nervous system, blood, and circulation.

"Is there any relation between the prevalence of enteric fever in the army and the foregoing theory of its origin? I venture to think there may be. The construction, ventilation, water-supply, drainage, and cleanliness of barracks and cantonments can seldom be impeached; the clothing of the soldier is usually suitable, and his duties are not unhealthy. The food, however, is more open to criticism. It is not my intention to discuss the nutritive value of the authorised scale of diet further than to observe that the nitrogen is not economically distributed; that it probably contains too little fat, too few green vegetables, and tannic acid in hurtful quantities. The writer of this article only concerns himself with the last constituent, and it has often struck him that it cannot be conducive to health and may be an active factor in producing

disease. This tannic acid is contained in the tea, which the soldier consumes in large potations twice a day. Ordinary tea contains 15 per cent. of tannin, but the proportion is much greater in that issued to the troops, which is of a coarse variety and contains a good deal of stalk. Barrackroom tea is not an infusion, but a strong decoction; and, in most instances, the process of making is prolonged until the leaves are exhausted of all their active principles. Of the prepared beverage (which is almost black, harsh and bitter to the taste), each man drinks three or four pints (more in the tropics) daily, often without the addition of milk.

"Now, although the moderate use of theine has a useful stimulating and restorative action, especially in circumstances entailing fatigue, the habitual ingestion of large quantities of tannin (50 grs. or more per day) can have no other than a baneful effect. It constricts the mucous membrane, lessens secretion, forms insoluble compounds with albumen, delays the elimination of effete matter, and may, possibly, promote the formation of noxious compounds by perverting normal metabolism.

"It is, at least, a remarkable coincidence, that as tea has become universally used as an article of diet, enteric fever should simultaneously develop and prevail extensively among all classes, despite the evolution and application of sanitary science. The consequences of this dietetic error are, in the army, aggravated by vicious habits. Intemperance, though not so common as formerly, unhappily still prevails; and every recruit considers it the correct thing to smoke or chew tobacco—the black Cavendish being preferred. He begins his pipe first thing in the morning, and, resorting to it at frequent intervals during the day, only abandons it when compelled to retire to rest. The prostrating effects of nicotine on the nervous and circulatory systems are well known to the tyro warrior, who instinctively has recourse to copious draughts at the canteen to relieve the resulting thirst and faintness.

"Another predisposing factor, the importance of which cannot be overestimated, is directly connected with army service, and attributable to sudden change of climate. The high per centage of enteric in the army in the tropics, and its incidence chiefly among young soldiers, recently arrived, may be explained:—1st. By an increased consumption of tea, with a corresponding augmentation of the ingested tannin and its pernicious effects. In the Soudan, a large tea ration enabled the troops to partake copiously of the usual decoction; and it was not uncommon for the leaves to be boiled over and over again, as the process was believed to purify the drinking water. 2nd. By intense external heat, deranging the

natural thermostatic equilibrium in persons subjected to its influence too rapidly for accommodation to assert itself. In this way a febrile condition may be readily excited. 3rd. By disturbance of the circulation in the excretory organs, leading to unequal balance of the excretory function, not compensated for vicariously. For example : so much water may pass off through the skin, especially when the air is hot and dry, as to leave too little for the solution and elimination of important substances by the kidneys. Again, continued determination of blood to the surface of the body may retard the elaboration of crude products of digestion, and hinder the removal of toxic matters by the organs subserving the assimilation of food. The morbid influence of these conditions on the young soldier enhance his receptivity for the specific germ, and it is believed, account for his proneness to enteric fever when newly arrived in India. With advancing residence the percentage of liability diminishes—from the immunity acquired by antecedent attack ; better attention to the laws of health ; but particularly from the system accommodating itself to its new environment.

“Can any prophylactic measures be deduced from a consideration of the foregoing etiological factors of the disease under review ? The following are submitted with great diffidence :—

“1st. The substitution of cocoa for tea as a constituent of the soldier’s daily ration.

“2nd. Tobacco smoking and chewing to be discouraged as much as possible in India ; and only tobacco of the mildest kind to be kept for sale in the regimental shops.

“3rd. In India, during the hot weather, the principal meal ought to be partaken of in the cool of the evening, and should contain two-thirds of the meat ration. Breakfast and luncheon ought to be light meals—into the composition of which farinaceous articles of food, and such fruits and vegetables as may be obtainable locally, might enter with advantage. The remaining third of the meat ration would probably be best taken in the form of a mild curry at the mid-day meal. This would promote digestion, by imparting a stimulus to the gastro-intestinal glands, as these are usually in a torpid condition from the persistent fluxion to the peripheral capillaries.

“4th. It is earnestly suggested that young soldiers should be gradually inured to the climate of the tropics, by sending them to the Mediterranean in the first instance, and after a time passing them on to India. For this purpose the island of Cyprus is admirably situated, and possesses many natural advantages. It is

within twelve hours steam of Port Said; would form an excellent training ground for young soldiers; and, with a winter cantonment near Limasol, from which a change could be easily made to Mount Trôôdos (thirty miles distant) for the hot months, the climate would be found perfect—a fact to which the writer can testify from an experience of four years. Drafts should arrive in Cyprus in October; and from thence, after a year's residence, be transferred to stations in the hills of India.

“In this way a gradual introduction to Indian Service would allow the system time to accommodate itself to the climate of the tropics.”

HER MAJESTY'S BRITISH MEDICAL SERVICE.

The Director-General of the Army Medical Department has placed in our hands the following official list of successful candidates for commissions in the Medical Staff of Her Majesty's Army at the examination held in London during August, 1895:—

Order of Merit	Names	Order of Merit	Names	Marks
1	Brereton, F. S.	2,685	6	Vaudin, M. L. M.
2	Statham, J. C. B.	2,324	7	Ward, W. A.
3	Probyn, P. J.	2,265	8	Forrest, E. G.
4	Cooper, R. M. C. H.	2,259	9	Hooper, A. W.
5	Waring, A. H.	2,214	10	Hayes, E. C.

The following is an official list of surgeons on probation of the Medical Staff of the British Army who were successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—

July 31st, 1895.

	Combined Marks		Combined Marks
1 Smith, L. F.	5,251	6 Forrest, J. V.	3,943
2 Blackham, R. J.	4,807	7 Grattan, H. W.	3,879
3 Fairrie, S. H.	4,861	8 Gunter, F. E.	3,541
4 Maurice, G. T. K.	4,245	9 Campbell, J. H.	3,461
5 Fawssett, R.	4,117	10 Grech, J.	3,443

* Gained the 2nd Montefiore Prize and the de Chaumont Prize in Hygiene.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—WILLIAM THOMSON, F.R.C.S.I.

SECTION OF MEDICINE.

President—WALTER G. SMITH, M.D., President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. MONTGOMERY, M.R.C.P.I.

Friday, March 22, 1895.

The PRESIDENT in the Chair.

Case of Hydroa Gestationis.

DR. NINIAN FALKINER showed a case of herpes gestationis. The woman, aged thirty-eight years, has been married twice, and has had six children. She is now in the third month of her seventh pregnancy and the third attack of the disease. The eruption commences at the end of the third month on the back of the wrists, and continues advancing until it covers all parts of the body; after delivery it disappears in about six weeks. This is the third time that Dr. Falkiner has attended her. She states that it comes on only when she is carrying a male child.

The PRESIDENT said that, through the kindness of Dr. Falkiner, he had seen the case a year ago. She was pregnant at the time. He had no doubt that it was a case of hydroa gestationis. He was not aware of any other cases of the same kind seen in Dublin except one by himself at the Adelaide Hospital dispensary.

Friedreich's Disease (Hereditary Ataxy), associated with Genitrous Idiocy.

DR. M. J. NOLAN read a paper on this subject. [It will be found in Vol. XCIX., page 369.]

Case of Protracted Typhoid Fever.

DR. NINIAN FALKINER read a note on a case of prolonged typhoid fever, and exhibited a temperature chart for 119 days.

Case of Typhoid Fever, with prolonged Pyrexia.

DR. A. R. PARSONS read the notes of a case of typhoid fever in which pyrexia was prolonged for a lengthened period. He exhibited a temperature chart which extended over 290 days. The patient recovered.

DR. PURSER thought that Dr. Parsons' case differed materially from Dr. Falkiner's. In the latter there were several complications, and the case was that of a young child in which the temperature was much more easily put up. Dr. Parsons' case seemed to have been uncomplicated except for a short attack of pneumonia at the beginning. He thought persons were apt to put too much weight on the single symptom of the temperature. He thought that the explanation of the case was that the nervous mechanism by which the temperature was maintained normal, called the thermotaxic mechanism, was enfeebled, and that the person became for a certain time a poikilothermic animal, which young children always are. During a fever the temperature not only is higher but also more unstable, and even after the temperature comes down to normal it is unstable for a long time, very little causing a rise or fall. So that unless the temperature was accompanied by other symptoms, there was not much ground for alarm. It was interesting to note that the condition which produces an elevation of temperature to 100° in some cases makes the person very ill, while in others it does not. Some time ago he had seen a paper on "Septic and Aseptic Fevers." The writer thought that in some cases the temperature was produced by septic causes, and in other cases by aseptic causes. If the patient's sensations were undisturbed and no physical signs could be found to account for the temperature, then there is not much cause for anxiety.

DR. BOYD was disposed to agree with Dr. Purser about Dr. Falkiner's case, that the complications would account for the time that the temperature remained elevated. In Dr. Parsons' case he thought the typhoid fever ended about January, and that the

further rise of temperature was due to ulceration, possibly of a mesenteric gland. He thought that ulceration often went on in typhoid after the temperature had come down. He had a case in which the temperature was normal after ten days. The patient then took too much fruit, got peritonitis and died. On *post mortem* examination more than a dozen ulcers were found in the ileum, which had evidently existed from the typhoid attack.

THE PRESIDENT thought Dr. Parsons' chart the longest on record, and that there was no doubt about the diagnosis from the full account given. Dr. Parsons had mentioned that he had given quinine without its lowering the temperature. That was his experience also. He had once given 240 grains of quinine in 24 hours, with the result that the temperature came down only two degrees. He thought that a high temperature was of great value in putting persons on their guard and keeping the patient under observation, but in enteric fever he considered the mere range of temperature unimportant as compared with the aspect of the patient, the condition of his digestive system, and the state of his tongue. He had several times, when the patient was feeling well and had a clean tongue, allowed the patient up, although the evening temperature was 100° or 101°, and had found that the temperature had settled down within 48 hours.

DR. PARSONS, replying, said that according to Murchison 100 days was the longest chart of typhoid fever. He did not see how instability of the thermotaxic centre could explain everything, as there was evidently something wrong with the patient besides his temperature. It was only on July 20th that he was able to walk upstairs. He did not think the cause of the temperature was a suppurating mesenteric gland, as it probably would have burst into the patient's peritoneal cavity and produced peritonitis, which he never had.

DR. FALKNER, in reply, thought the complications in his case would have some effect on the temperature, but the patient had haemorrhage on the 72nd day, and diarrhoea with jelly-like motions till the 90th day, and also typhoid spots with pain, so that he was still of opinion that the typhoid fever lasted at least till the 120th day.

PATHOLOGY.

THE Chair of Pathology in the Faculty of the Jefferson Medical College in Philadelphia is vacant.

MEDICAL EDUCATION AND EXAMINATIONS IN IRELAND.

STANDING on the threshold of another session of medical work—on the New Year's Day of an *Annus Medicus*—we desire to place before our readers some information which may guide them in advising the parents or guardians of young men or women who may have chosen the calling of Medicine as their future life-work. We are emboldened to do this because of the friendly and confidential relations which we are gratified to know exist between the members of our profession scattered through the length and breadth of Ireland and their clients, the heads of families resident in their several districts. May the day never come when the family physician will cease to be the confidential friend as well as the medical adviser of the country gentleman!

Medical students in Ireland, as elsewhere, have in the first instance to choose between University Degrees and Non-University Qualifications or Diplomas. Should they elect to try for an University Degree, their choice must lie between the University of Dublin, which requires a Degree in Arts before registrable Degrees in Medicine, Surgery, and Midwifery are conferred, and the Royal University of Ireland, which—while not requiring a full Arts Degree—yet rightly insists on a liberal education in Arts, tested by more than one searching examination in the same, before a candidate graduates in the three branches of medicine already mentioned—Medicine, Surgery, and Midwifery.

Outside the Universities, the chief, practically the only, Licensing Bodies are the Royal Colleges of Physicians and Surgeons, for the Conjoint Examination Scheme between the Royal College of Surgeons in Ireland and the Apothecaries' Hall of Dublin has ceased to exist, and the future position of the latter body as a Licensing Corporation under the Medical Act of 1886 is at present quite undefined. On the other hand, the Royal Colleges are now in a position to give a first-class working qualification in Medicine, Surgery, and Midwifery—a qualification which is registrable under

the Medical Acts, which is universally recognised as one of high merit, and the possession of which is attended by no disabilities, such as preventing its possessor from dispensing medicines or keeping open shop for the sale of medicines if he is legally qualified to do so.

The Medical Schools in Ireland are—(1.) The School of Physic in Ireland, Trinity College, Dublin; (2.) The Schools of Surgery of the Royal College of Surgeons in Ireland (including the Carmichael College of Medicine and the Ledwich School of Medicine); (3.) The Catholic University Medical School, Cecilia-street, Dublin; (4.) The School of Medicine, Queen's College, Belfast; (5.) The School of Medicine, Queen's College, Cork; and (6.) The School of Medicine, Queen's College, Galway.

Facilities for Clinical Instruction in fully-equipped Medico-Chirurgical Hospitals exist in Dublin, Belfast, Cork, and Galway; but, as a rule, the Schools of Medicine in Ireland are not attached to a given hospital, or *vice versa*, as is the case in London and other large centres of medical education. The student will, however, have little difficulty in selecting a hospital in the wards of which he will receive excellent bedside teaching, and have ample opportunity of making himself familiar with the aspect and treatment of disease.

The detailed information which follows is authentic, being taken directly from the published calendars of the respective licensing bodies.

REGULATIONS PRESCRIBED BY THE GENERAL MEDICAL COUNCIL.

With regard to the course of Study and Examinations which persons desirous of qualifying for the Medical Profession shall go through in order that they may become possessed of the requisite knowledge and skill for the efficient practice of the Profession, the General Medical Council have resolved that the following conditions ought to be enforced without exception on *all* who commence their Medical Studies at any time after Jan. 1, 1892:—

(a) With the exception provided below, the period of Professional Studies, between the date of registration as a medical student and the date of Final Examination for any Diploma which entitles its bearer to be registered under the *Medical Acts*, must be a period of *bona fide* study during not less than five years.

(b) In every course of Professional study and Examinations, the following subjects must be contained :—

- (I.) Physics, including the Elementary Mechanics of Solids and Fluids, and the rudiments of Heat, Light, and Electricity.
- (II.) Chemistry, including the principles of the Science, and the details which bear on the study of Medicine.
- (III.) Elementary Biology.
- (IV.) Anatomy.
- (V. to XV.) All the other subjects which are included in the Curriculum of the Royal University.

The first four of the five years of Medical Study should be passed at a School or Schools of Medicine recognised by any of the Licensing Bodies, provided that the First Year may be passed at a University, or Teaching Institution, recognised by any of the Licensing Bodies, where the subjects of Physics, Chemistry, and Biology are taught.

The Examinations in the Elements of Physics, Chemistry, and Biology should be passed before the beginning of the Second Winter Session.

The exception referred to above in (a) is as follows :—

Graduates in Arts or Science of any University recognised by the Medical Council who shall have spent a year in the study of Physics, Chemistry, and Biology, and have passed an Examination in these subjects for the Degrees in question, should be held to have completed the first of the five years of Medical Study.

I.

UNIVERSITY OF DUBLIN.

DEGREES AND DIPLOMAS IN MIDWIFERY, SURGERY, AND MEDICINE.

The Degrees and Diplomas in Midwifery, Surgery, and Medicine, granted by the University are as follow :—

The Degrees are :—

1. Bachelor in Obstetric Science.
2. Master in Obstetric Science.
3. Bachelor in Surgery.
4. Master in Surgery.
5. Bachelor in Medicine.
6. Doctor in Medicine.

The Diplomas are :—

1. Diploma in Obstetric Science.
2. Diploma in Surgery.
3. Diploma in Medicine.

Besides these Degrees and Diplomas, the University also grants a—

Qualification in State Medicine.

**REGULATIONS FOR STUDENTS WHO MATRICULATED ON
OR BEFORE 25TH NOVEMBER, 1891.**

The following conditions must be fulfilled in order to qualify for the Degrees in Midwifery (B.A.O.), Surgery (B.Ch.), and Medicine (M.B.) :—

I. The Student must be of B.A. standing, and his name must be for at least four (Academic) years on the Books of the Medical School, reckoned from the date of his Matriculation. He may carry on his Arts Course concurrently with the Medical Course, and he need not have taken his B.A. before presenting himself for his Final Medical Examinations, but he cannot have the Medical Degrees conferred without the Arts Degree.

II. The following Courses must have been attended :—

[*Note*.—The Courses marked thus (*) must have been taken out before the Student can present himself for *any* of the Degree Examinations.

In addition, the Courses marked thus (†) must have been taken out before he can present himself for B.A.O., and the Courses marked thus (‡) before he can present himself for B.Ch.]

1. LECTURES.

WINTER COURSES.

* <i>Systematic Anatomy.</i>	* <i>Chemistry.</i>
* <i>Practical Anatomy (with Dissections), 1st year.</i>	† <i>Surgery.</i>
† <i>Practical Anatomy (with Dissections), 2nd year.</i>	* <i>Physiology.</i>
† <i>Applied Anatomy (with Dissections).</i>	* <i>Practice of Medicine.</i>

† <i>Midwifery.</i>

SUMMER COURSES.

* <i>Practical Chemistry.</i>	* <i>Materia Medica.</i>
* <i>Practical Histology.</i>	* <i>Medical Jurisprudence & Hygiene.</i>
* <i>Botany.</i>	† <i>Operative Surgery.</i>
* <i>Zoology.</i>	

TERM COURSES.

* *Physics*.—Michaelmas and Hilary Terms.

***2. HOSPITAL ATTENDANCE.**

1. Three Courses of nine months' attendance on the Clinical Lectures of Sir Patrick Dun's or other Metropolitan Hospital recognised by the Board of Trinity College.

Students who shall have diligently attended the practice of a

recognised London or Edinburgh Hospital for one year, of a recognised County Infirmary, or of a recognised Colonial Hospital for two years previous to the commencement of their Metropolitan Medical Studies, may be allowed, on special application to the Board of Trinity College, to count the period so spent as equivalent to one year spent in a recognised Metropolitan Hospital.

***3. PRACTICAL VACCINATION.**

One month's instruction in Practical Vaccination to be attended at the Vaccine Department Local Government Board for Ireland, 45 Upper Sackville-street; at No. 1 East Dispensary, 11 Emerald-street; or, until further notice, at the Grand Canal-street Dispensary.

***4. FEVER CASES.**

A Certificate of personal attendance on not less than five cases of Fever, with names and dates of the cases.

†5. PRACTICAL MIDWIFERY.

A Certificate of attendance on a six months' Course of Practical Midwifery with Clinical Lectures, including not less than thirty cases.

‡6. OPHTHALMIC SURGERY.

A Certificate of attendance on a three months' Course of Ophthalmic Surgery.

III. The following Examinations must be passed:—

- A.—The Previous Medical or Half M.B. Examination.**
- B.—The Degree Examinations.**

A.—PREVIOUS MEDICAL EXAMINATION.

This Examination is divided into—

1. Physics and Chemistry.
2. Botany and Zoology.
3. Anatomy and Institutes of Medicine (Practical Histology and Physiology).

The Examination in Anatomy includes examination on the dead subject.

Before presenting himself for examination in any of the subjects the Student must have obtained credit for the corresponding Courses of Lectures and Practical Instruction.

It is not necessary that the Student should pass in all these subjects at the same examination; he is allowed to present himself for examination in as many, or as few of them, as he pleases.

A Candidate rejected at the May examination will not be

allowed to present himself for examination in the same subjects at the June examination.

Candidates who fail in any part of the Examination are liable to be excluded from further examination in the same subjects, for a period not exceeding six months, if, in the opinion of the Examiners, they have given evidence of careless preparation.

Any Student who has obtained a Moderatorship in Natural Science, or a First Honor in Natural Science in both his Junior and Senior Sophister years, and has credit for attendance at not less than thirty Lectures in Botany and Zoology in his Sophister years, may present himself at the previous Medical Examination in these subjects.

Examinations will be held on Nov. 12, Jan. 25, May 27, June 20, June 24, and following days. Notice must be given to the Registrar of the School of Physic between Nov. 5 and 9, Jan. 21 and 25; May 20 and 24; June 11 and 18; June 17 and 21, respectively.

No Candidate will be allowed in for any Examination unless he has given notice within the days specified.

B.—DEGREE EXAMINATIONS.

There are three Degree Examinations, the B.A.O., the B.Ch., and the M.B. These may be taken in any order, provided that the requisite conditions have been fulfilled, and the Previous Medical Examination passed in all subjects.

1.—*Bachelor in Obstetric Science (B.A.O.).*

The Candidate must lodge with the Registrar of the School of Physic his Certificate of attendance on Practical Midwifery. He must also produce his Certificates of attendance on Hospital, Fever, and Vaccination, unless these have been already produced.

The Candidate is then required to pass an Examination in the following subjects:—

Practice of Midwifery.

Gynæcology.

Obstetrical Anatomy.

Fee for the Degree of Bachelor in Obstetric Science, £1. There is no *Licent* Fee.

Examinations will be held on Nov. 19, Feb. 4, June 3, and following days. Notice must be given to the Registrar of the School of Physic between Nov. 12 and 16; Jan. 28 and Feb. 1; May 27 and 31, respectively.

No Candidate will be allowed in for any Examination unless he has given notice within the days specified.

2.—*Bachelor in Surgery (B.Ch.).*

The Candidate must lodge with the Registrar of the School of Physic his *Liceat* Fee, and his Certificate of Attendance on a Course of Ophthalmic Surgery.

He must also produce his Certificates of attendance on Hospital, Fever, and Vaccination, unless these have been already produced.

The Candidate is then required to pass an Examination in the following subjects:—

1. Clinical Surgery.	4. Surgical Pathology.
2. Operative Surgery (on the dead subject).	5. Surgical Anatomy.
3. Surgery.	6. Ophthalmic Surgery.

Fee for the *Liceat ad Examinandum*, £5.

Fee for the Degree of Bachelor in Surgery, £5.

Examinations will be held on Nov. 26, Feb. 11, June 10, and following days. Notice must be given to the Registrar of the School of Physic between Nov. 19 and 23; Feb. 4 and 8; June 3 and 7, respectively.

No Candidate will be allowed in for any Examination unless he has given notice within the days specified.

3.—*Bachelor in Medicine (M.B.).*

The Candidate must lodge with the Registrar of the School of Physic his *Liceat* Fee together with Certificates of Attendance on Hospital, Vaccination and Fever, unless these have been already produced.

The Candidate is then required to pass an Examination in the following subjects:—

Clinical Medicine.	Medical Anatomy.
Practice of Medicine	Medical Jurisprudence and
Therapeutics.	Hygiene.
Pathology	

Fee for the *Liceat ad Examinandum*, £5.

Fee for the Degree of Bachelor in Medicine, £11.

Examinations will be held on Dec. 3, Feb. 18, June 17, and following days. Notice must be given to the Registrar of the School of Physic between Nov. 26 and 30; Feb. 11 and 15; June 10 and 14, respectively.

No Candidate will be allowed in for any Examination unless he has given notice within the days specified.

4.—*Master in Obstetric Science.*

A Master in Obstetric Science must have passed the M.B. and

B.Ch. Examinations and produce a Certificate of having attended a Summer Course in Obstetric Medicine and Surgery.*

He is then required to pass an Examination in the following subjects:—

1. Practice of Midwifery.	3. Anatomy of Female Pelvis and Elementary Embryology.
2. Gynaecology.	4. Clinical Gynaecology.

Fee for the Degree of Master in Obstetric Science, £5.

Notice should be given to the Registrar of the School of Physic a week before the first day of the Examination. The dates are the same as those for the B.A.O.

5.—Master in Surgery.

A Master in Surgery must be a Bachelor in Surgery of the University of Dublin, of not less than three years' standing, and must produce satisfactory evidence of having been engaged for not less than two years from the date of his Registration in the study or practice of his profession. He must then pass an Examination in the following subjects:—

1. Clinical Surgery.	4. Surgery.
2. Operative Surgery.	5. Surgical Anatomy (on the dead subject).
3. Surgical Pathology.	

And one of the following optional subjects, viz.:—

1. Surgery, in one of its recognised branches, viz.:—
Ophthalmic and Aural; Gynaecological; Dental.
2. Mental Disease.
3. Medical Jurisprudence and Hygiene.
4. Advanced Anatomy and Physiology.
5. Comparative Anatomy.

Graduates in Surgery of the University of Dublin, of not less than ten years' standing, may be recommended for the Degree of M.Ch., by the vote of the Court of Examiners, on such Examination as they shall determine. Candidates claiming this privilege must give one month's notice to the Registrar of the School, and state in full their qualifications, and name the optional subject selected.

Fee for the Degree of Master in Surgery, £11.

Notice should be given to the Registrar of the School of Physic a week before the Examination begins, the optional subject selected being named at the same time. The dates are the same as those for the B.Ch.

* Existing Graduates in Medicine of the standing of M.D. are not required to attend this Course.

Surgeons of the Army Medical Department who take this Degree of M.Ch., will be considered qualified for advancement without passing any further Examination.

6.—*Doctor in Medicine.*

A Doctor in Medicine must be a Bachelor in Medicine of three years' standing, or have been qualified to take the Degree of Bachelor in Medicine for three years. He must also read a Thesis publicly before the Regius Professor of Physic, or must undergo an Examination before the Regius Professor of Physic, according to Regulations to be approved by the Provost and Senior Fellows. The Regius Professor as a rule appoints 12 o'clock on the day before Commencements for hearing Theses.

Commencements will be held on Dec. 19, Feb. 26, April 19, June 28.

Fee for the Degree of Doctor in Medicine, £18.

UNIVERSITY DIPLOMAS.

Candidates for the Diplomas in Obstetric Science, Surgery, and Medicine, must be matriculated in Medicine, and must have completed two years in Arts, and four years in Medical Studies.

The dates, regulations, and subjects of Examination are the same as for the Degrees, except that it is not necessary to attend the Courses of Lectures in Botany and Zoology, nor to pass the Previous Medical Examination in these subjects.

A Diplomate on completing his Course in Arts, and proceeding to the Degree of B.A., may become a Bachelor, by attending the Lectures on Botany and Zoology, passing the Previous Medical Examination in those subjects, and paying the Degree Fees.

The *Liceat* fees are the same as for the Degrees. The fees for the Diplomas are—Obstetric Science £1, Surgery £5, Medicine £5.

N.B.—Each Candidate having completed the prescribed Courses of study, passed the requisite qualifying Examinations in Midwifery, Surgery, and Medicine, and had conferred on him the corresponding Degrees or Diplomas, will obtain from the Senior Proctor a Diploma entitling him to be entered on the Register of Medical Practitioners under the Medical Act, 1886.

REGULATIONS FOR STUDENTS WHO MATRICULATED
SINCE 1891.

The following conditions must be fulfilled in order to qualify for the Degrees in Midwifery (B.A.O.), Surgery (B.Ch.), and Medicine (M.B.) :—

I. The Student must be of B.A. standing, and his name must be for at least five (Academic) years on the Books of the Medical School, reckoned from the date of his Matriculation. He may carry on his Arts Course concurrently with his Medical Course, and he need not have taken his B.A. before presenting himself for his Final Medical Examination, but he cannot have the Medical Degrees conferred without the Arts Degree.

II. The following Courses must have been attended :—

[Note.—The Courses marked thus (*) must have been taken out before the Student can present himself for any part of the Final Examination. In addition, the Courses marked thus (†) must have been taken out before he can present himself for Section B of the First Part; the Courses marked thus (‡) before he can present himself for Section A of the Second Part; and the Courses marked thus (§) before he can present himself for Sections B and C of the Second Part.]

1. LECTURES.

WINTER COURSES.

• <i>Systematic Anatomy.</i>	• <i>Chemistry.</i>
• <i>Practical Anatomy (with Dissections), 1st year.</i>	† <i>Surgery.</i>
• <i>Practical Anatomy (with Dissections), 2nd year.</i>	• <i>Physiology (two Courses).</i>
• <i>Applied Anatomy (with Dissections).</i>	† <i>Practice of Medicine.</i>
	‡ <i>Midwifery.</i>
	† <i>Pathology.</i>

SUMMER COURSES.

• <i>Practical Chemistry.</i>	† <i>Materia Medica & Therapeutics.</i>
• <i>Practical Histology.</i>	• <i>Medical Jurisprudence & Hygiene.</i>
• <i>Botany.</i>	§ <i>Operative Surgery.</i>
• <i>Zoology.</i>	

TERM COURSES.

**Physics*.—Michaelmas, Hilary, and Trinity Terms.

§2. HOSPITAL ATTENDANCE.

1. Three Courses of nine months' attendance on the Clinical Lectures of Sir Patrick Dun's or other Metropolitan Hospital recognised by the Board of Trinity College.

Students who shall have diligently attended the practice of a recognised London or Edinburgh Hospital for one year, of a recognised County Infirmary, or of a recognised Colonial Hospital for two years previous to the commencement of their Metropolitan Medical Studies, may be allowed, on special application to the Board of Trinity College, to count the period so spent as equivalent to one year spent in a recognised Metropolitan Hospital.

†3. PRACTICAL VACCINATION.

One month's instruction in Practical Vaccination to be attended, at the Vaccine Department Local Government Board for Ireland, 45 Upper Sackville-street; No. 1 East Dispensary, 11 Emerald-street; or, until further notice, at the Grand Canal-street Dispensary.

§4. MENTAL DISEASE.

A Certificate of attendance on a three months' Course of Practical Study of Mental Disease in a recognised Institution.

‡5. PRACTICAL MIDWIFERY.

A Certificate of attendance on a six months' course of Practical Midwifery with Clinical Lectures, including not less than thirty cases.

§6. OPHTHALMIC SURGERY.

A Certificate of attendance on a three months' Course of Ophthalmic Surgery.

III. The following Examinations must be passed:—

The Previous Medical or Half M.B. Examination.

The Final Examination.

The Previous Medical Examination must be passed in all its parts before any part of the Final can be entered for, except in the case of Candidates for Diplomas.

The Regulations and Dates for the Previous Medical Examination are the same as those specified on pages 334 and 335.

The Final Examination is arranged as follows:—

FIRST PART.

SECTION A.

Applied Anatomy (Medical and Surgical); paper.

Applied Physiology, *vivæ voce*.

Jurisprudence and Hygiene; paper and *vivæ voce*.

SECTION B.

Materia Medica and Therapeutics; paper and *vivæ voce*.

Medicine; paper and *vivæ voce*.

Surgery; paper and *vivæ voce*.

Pathology; paper and *vivæ voce*.

Section A may be passed in any part of the Fourth Year, provided the corresponding Curriculum shall have been completed; Section B not before Trinity Term of the Fourth Year.

Examinations for Section A will be held on Nov. 19, Feb. 4, June 8, and following days; for Section B on Nov. 26, Feb. 11, June 10, and following days. Notice must be given to the Registrar

of the School of Physic, for Section A, between Nov. 12 and 16, Jan. 28 and Feb. 1, May 27 and 31, respectively; for Section B, between Nov. 19 and 23, Feb. 4 and 8, June 3 and 7, respectively.

No Candidate will be allowed in for any Examination unless he has given notice within the days specified.

SECOND PART.

SECTION A.

Midwifery; paper and *vivā voce*.

Gynaecology; paper and *vivā voce*.

Obstetrical Anatomy; paper.

SECTION B.

Clinical Medicine.

Mental Disease; paper.

SECTION C.

Clinical Surgery.

Operations.

Clinical Ophthalmology.

Section A may be passed in Hilary Term of the Fifth Year, provided the corresponding Curriculum shall have been completed; Sections B and C not before Trinity Term of the Fifth Year, but not necessarily in the same Term.

N.B.—Each Candidate having completed the prescribed Courses of study, passed the requisite qualifying Examinations in Midwifery, Surgery, and Medicine, and had conferred on him the corresponding Degrees or Diplomas, will obtain from the Senior Proctor a Diploma entitling him to be entered on the Register of Medical Practitioners under the Medical Act, 1886.

QUALIFICATION IN STATE MEDICINE.

The Diploma in State Medicine is conferred, after examination, by the University of Dublin, upon Candidates fulfilling the following conditions:—

1. The Candidate must be a Doctor in Medicine, or Graduate in Medicine and Surgery, of Dublin, Oxford, or Cambridge.
2. The name of the Candidate must have been on the Medical Register at least twelve months before the Examination.
3. The Candidate must have completed, subsequent to Registration, six months' practical instruction in a Laboratory approved by the University, and also have studied, practically, outdoor Sanitary work for six months, under an approved Officer of Health.

The Examination to be passed by the Candidate is prescribed as follows:—

EXAMINATION FOR DIPLOMA IN STATE MEDICINE.

STATE MEDICINE AND HYGIENE.—*Examination by Paper.*

Time, 2 hours.

CHEMISTRY.—*Examination by Paper, and in Laboratory.* Time, 1½ hour each.

PHYSICS AND METEOROLOGY.—*Examination vivè voce.*

ENGINEERING.—*Examination by Paper.* Time, 1½ hour.

MORBID ANATOMY.—*Examination vivè voce.*

VITAL STATISTICS.—*Examination by Paper.* Time, 1½ hour.

MEDICAL JURISPRUDENCE.—*Examination vivè voce.*

LAW.—*Examination by Paper.* Time, 1½ hour.

II.

ROYAL UNIVERSITY OF IRELAND.

COURSES FOR DEGREES IN MEDICINE, SURGERY, AND OBSTETRICS.

General Regulations.

The Course for these Degrees shall be of at least five Medical years' duration reckoned from the completion of one Academical Year from the date of Matriculation; but Graduates in Arts or Science who shall have spent a year in the study of Physics, Chemistry, and Biology, and have passed an Examination in these subjects for the Degrees in question, shall be held to have completed the first of the five years of Medical Study.

Students who commenced their medical studies after Jan. 1, 1892, must furnish evidence of having been registered by the Medical Council, as Students in Medicine, for at least 57 months, before being admitted to the Final Examination for the M.B., B.Ch., and B.A.O. Degrees.

No one can be admitted to a Degree in Medicine who is not fully twenty-one years of age.

All Candidates for these Degrees are, in addition to attending the lectures and complying with the other conditions to be from time to time prescribed, required to pass the following Examinations:—

The Matriculation Examination.

The First University Examination.

The First Examination in Medicine.

The Second Examination in Medicine.

The Third Examination in Medicine.

The Examination for the M.B., B.Ch., B.A.O. Degrees.

The Course of Medical Studies shall be divided into five Periods of one Medical Year each.

When a Student has fully completed the Course of Medical Studies prescribed for any year, he may proceed with the studies assigned to the year next following, without passing the corresponding examination.

There shall be an interval of at least one Academical Year between the passing of one examination and the being admitted to the examination next subsequent. But the Senate may, under special circumstances, allow a Candidate to present himself for his following examination within a less interval.

The Senate may, in the case of any Candidate who so desires, allow such Candidate to present himself for the Third Examination in Medicine, and for the Degree Examination at the same time, provided that an interval of three Academical years shall have elapsed from the time of passing the Second Examination in Medicine, and provided such Candidate shall have completed the entire course of studies, etc., prescribed for the five years of the Medical curriculum.

Candidates shall furnish proper Certificates of attendance at the several Courses of Medical Instruction prescribed for the different years of the curriculum.

No such Certificate will be received unless it attests a *bona fide* attendance at three-fourths of the whole Course. *Students are reminded that certificates of attendance at Night Lectures will not be accepted.*

No Certificates of instruction in any of the Courses of Medical Studies, either in connection with Lectures or hospitals, can be received, unless issued by an Institution which has been formally recognised by the Senate.

The prescribed courses in Natural Philosophy, Chemistry, Biology, Anatomy and Physiology must be attended in Institutions provided with the appliances required for the performance by the Students of proper Experimental Courses and Practical Work in those subjects.

Where Certificates in a special department (Fever, Mental Diseases, Ophthalmology, &c.), are presented, they must be signed by the Physician or Surgeon in charge of such department.

MEDICAL CURRICULUM.

FIRST YEAR.

The First Year's course of Medical Studies consists of:—

(a.) Natural Philosophy, taught experimentally:—

Either a Six Months' Course with Lectures (illustrated experimentally) on Three days in the week;

Or, a Three Months' Course with Lectures (illustrated experimentally) on at least Five days in the week.

(b.) Chemistry, a Six Months' Systematic Course :—

(c.) Biology :—

Botany, a Three Months' Course, with Lectures and Demonstrations on at least Three days in the week.

Zoology, a Three Months' Course with Lectures and Demonstrations on at least Three days in the week.

(d.) Anatomy, a Six Months' Systematic Course (Optional).

(e.) Practical Anatomy (Dissections), a Six Months' Course (Optional)

The Systematic Course in Anatomy and Dissections should enable the Student to acquire a good knowledge of the bones, joints, and muscles, and such knowledge of the vessels and viscera and of the larger nerves, as he may reasonably be supposed to have acquired at this period of his Medical Studies.

(f.) Practical Chemistry, a Three Months' Course (Optional).

This attendance must not be simultaneous with attendance at the Systematic Course.

SECOND YEAR.

The studies assigned to the Second Year must not be entered upon until the completion of such a course assigned to the First Year; that is, until the completion of the course of study which would qualify a candidate for admission to the First Examination in Medicine.

The Second Year's course of Medical Studies consists of :—

(a.) Anatomy, a Six Months' Systematic Course ;
 (b.) Practical Anatomy (Dissections), a Six Months' Course ; } If not attended during the First Year.

Students who in the First Year have attended the courses of Anatomy prescribed for the Second Year, may in the Second Year attend the course of Anatomy prescribed for the Third Year.

(c.) Practical Chemistry, a Three Months' Course (if not attended during First Year).

(d.) Physiology, a Six Months' Systematic Course.

(e.) Materia Medica, Pharmacology and Therapeutics, a Three Months' Course (optional). This subject may be studied in either the Second or Third Year of Medical Studies; but it will be included in the subjects of the Third Examination in Medicine.

(f.) Practical Physiology and Histology (optional). A Three Months' Laboratory Course, of at least two hours three times a week. One third, at least, of the time shall be devoted to Practical Physiology, and this shall be stated explicitly in the certificate or certificates of attendance. This Course may be taken either in the Second or in the Third Year.

(g.) Hospital Attendance.

Attendance during a *Winter* Session of Six Months, and a Summer Session of Three Months at a Medico-Chirurgical Hospital recognised by the University, and at the Clinical Lectures delivered therein.

THIRD YEAR.

No certificate of attendance at instruction in any of the branches of study assigned to the Third Year will be accepted, where such attendance appears to have taken place prior to the completion of the Second Year of Medical Studies, except as herein provided.

The Third Year's Course of Medical Studies consists of—

(a) Anatomy, a Six Months' Advanced Systematic Course;
(b) Practical Anatomy (Dissections), a Six Months' Course;

If not attended during the Second Year.

The Course of Advanced Systematic Anatomy should be such as to enable Students to perfect their knowledge of the branches of Anatomy prescribed for the Second Examination in Medicine, and also of the whole nervous system and the organs of sense.

(c) Physiology, a Six Months' Advanced Systematic Course; The Course of Physiology must be distinct from the Course in the Second Year of Medical Studies. It shall deal expressly with those parts of the subject which are not prescribed for the Second Year's Course, and shall comprise Embryology, the Histology and Physiology of the central nervous system, and of the organs of special sense, of voice, and of reproduction.

(d) Practical Physiology and Histology (if not attended during the Second Year).

(e) Any two of the following :—

(i.) Medicine, a Six Months' Course.
(ii.) Surgery, a Six Months' Course.

(iii.) **Midwifery, and Diseases of Women and Children.**

This may be attended either as one complete course, of at least six months, embracing both branches of the subject, or as two courses of three months each, one in Midwifery, the other in Diseases of Women and Children. These two courses must not be simultaneous.

(f.) **Materia Medica, Pharmacology and Therapeutics, a Three Months' Course (if not attended during Second Year).**

(g.) **Practical Pharmacy.***

A Three Months' Course given in a recognised School in a properly equipped Laboratory by a duly appointed Lecturer on Pharmacy. (This Course may be attended before, at the same time as, or after that on Materia Medica, but must be attended in the Third Year).

(h.) **Hospital Attendance.**

Attendance during a *Winter Session of Six Months*, and *Summer Session of Three Months* at a General Hospital recognised by the University and at the Clinical Lectures delivered therein.

Any of these attendances may take place at any time during the Third, Fourth, or Fifth years :—

(i.) **Fever Hospital.**

Attendance during a period of *Three* consecutive months at a Fever Hospital of repute, or in the Fever Wards of a General Hospital. If the attendance takes place during a regular Winter or Summer Session, it may be reckoned as a portion of the prescribed total Hospital attendance of thirty-three months.

But neither attendance at a Fever Hospital, nor the "Personal charge" of Fever cases, can be recognised, where it takes place prior to attendance at the course of Lectures on Theory and Practice of Medicine.

(j.) **Attendance on at least six *Post-mortem* Examinations.**

(k.) **Attendance for at least three consecutive months in a General Hospital as Clinical Clerk, and three consecutive months as Dresser; such attendance not to be simultaneous.**

* All candidates are required to lodge certificates of having attended this course in accordance with these regulations.

FOURTH YEAR.

No certificate of attendance at instruction in any of the branches of study assigned to the Fourth Year will be accepted, where such attendance appears to have taken place prior to the completion of the Third Year of Medical Studies, except as herein provided.

The Fourth Year's Course comprises the following subjects at least :—

(a.) Such of the following as may not have been attended during the Third year of Medical Studies :—

- (i.) Medicine, a Six Months' Course.
- (ii.) Surgery, a Six Months' Course.
- (iii.) Midwifery, and Diseases of Women and Children, a Six Months' Course.

(b.) Operative Surgery.

The course of instruction must be given in a recognised Medical School by a duly appointed Lecturer in Surgery. The Certificate of attendance must show that the Candidate has attended at least three-fourths of the whole period of the Course, such attendances not to be under any circumstances less than on twenty-four distinct days; and that the Candidate himself has, during such Course, performed at least four major operations on the dead subject under the direction of the Lecturer.

Printed Forms for this Certificate may be had on application.

(c.) Medical Jurisprudence, a Three Months' Course.

(d.) Pathology, a Three Months' Systematic Course of at least two lectures per week in a recognised Medical School.

Practical Pathology, a Three Months' Laboratory Course of at least three days per week in a recognised Medical School.

These Courses may be taken simultaneously.

(e.) Ophthalmology and Otology, a Three Months' Systematic Course in a recognised Medical School.

(f.) Hospital attendance.

Attendance during a *Winter* Session of Six Months and a *Summer* Session of Three Months at a General Hospital recognised by the University, and at the Clinical Lectures delivered therein.

If not attended during Third Year :—

(g.) Fever Hospital.

Attendance during a period of *Three* consecutive months at

a Fever Hospital of repute, or in the Fever Wards of a General Hospital.

- (h.) Attendance on at least six *Post-mortem* Examinations.
- (i.) Attendance for at least three months in a General Hospital as Clinical Clerk, and three months as Dresser; such attendances not to be simultaneous.

FOURTH AND FIFTH YEARS.

Attendance on the remaining parts of the Medical Curriculum may take place during either the Fourth or the Fifth Year. These parts are—

(a.) Sanitary Science. A Three Months' Systematic Course, including Laboratory work, in a recognised school.

(b.) Mental Diseases.

A Three Months' Course in a recognised Institution where Clinical Instruction on Mental Diseases is given.

(c.) Practical Midwifery.

Attendance for a period of six months at a recognised Midwifery Hospital, containing not less than fifteen beds in regular occupation where Clinical Instruction in Midwifery and Diseases of Women and Children is given, or for six months at a Midwifery Dispensary recognised by the Senate, where similar Clinical Instruction is given. During this period the Candidate is required to attend at least twenty Labours, of ten of which at least he must have had personal charge.

(d.) Ophthalmology and Otology. Attendance for a period of three months at a recognised Hospital, having at least ten beds devoted to diseases of the Eye and Ear.

If not already attended :—

(e.) Fever Hospital.

Attendance during a period of *Three* consecutive Months at a Fever Hospital of repute, or in the Fever Wards of a General Hospital.

(f.) Attendance on at least 6 complete *Post-mortem* Examinations.

(g.) Attendance for at least three months in a General Hospital as Clinical Clerk, and three months as Dresser; such attendances not to be simultaneous.

(h.) Personal charge of at least ten Fever cases.

Printed Forms of all Certificates of Personal Charge of Cases may be had on application.

N.B.—The expression *Personal Charge* implies that the student fulfils towards the case the duties commonly assigned to a Clinical Clerk.

Attendance in a Fever Hospital, or on Fever Cases, must not take place during the period of attendance on Practical Midwifery and Gynaecology.

(i.) **Vaccination.**

A short course of practical instruction under a Public Vaccinator.

Printed Forms for this Certificate may be had on application.

FIFTH YEAR.

Hospital Attendance. Attendance during a *Winter Session* of Six Months at a recognised General Hospital, and at the Clinical Lectures delivered therein.

THE EXAMINATION FOR THE M.B., B.C.H., B.A.O. DEGREES.

Candidates may present themselves for this Examination after an interval of such period, not being less than one Academical Year from the time of passing the Third Examination in Medicine, as the Senate may from time to time prescribe, provided they shall have completed the entire Medical Curriculum.

Candidates must give notice in writing to the Secretaries, of their intention to present themselves, and must pay the prescribed fee of £2, at least one month before the Examination, and must produce such Certificates as will show that the Candidates have completed the full course of studies prescribed for these Degrees.

This examination consists of three parts:—

(a.) **Medicine, Theoretical and Clinical, including Therapeutics, Mental Diseases, Medical Jurisprudence, Sanitary Science, and Medical Pathology.**

(b.) **Surgery, Theoretical, Clinical, and Operative, including the use of Instruments and appliances; Surgical Anatomy; Ophthalmology and Otology,* Surgical Pathology.**

(c.) **Midwifery and Diseases of Women and Children.**

All Candidates must enter for and go through the entire Examination, but a Candidate may be adjudged to have passed in any of the foregoing parts in which he satisfies the Examiners.

Upon completing satisfactorily his Examination in all three divisions, the Candidate will, in addition to the parchment Diplomas recording his admission to the M.B., B.C.H., B.A.O. Degrees, receive a Certificate of having passed a Qualifying Examination in the subjects of Medicine, Surgery, and Midwifery.

* Candidates at this Examination will be required to exhibit reasonable proficiency in the use of the Ophthalmoscope and Laryngoscope.

The fee for this Certificate is *Ten Pounds*, which must be paid before admission to these Degrees.

DIPLOMA IN SANITARY SCIENCE.

This Diploma shall be conferred only on Graduates in Medicine of the University.

Candidates may present themselves for this Examination after an interval of twelve months from the time of obtaining the M.B., B.Ch., B.A.O. Degrees.

Candidates must give notice in writing to the Secretaries of their intention to present themselves, and must pay the prescribed fee of £2 at least one month before the examination.

Every Candidate must when entering for the Examination produce:—*

- (a.) A Certificate of having, *after obtaining the M.B., B.Ch., B.A.O. Degrees*, attended during a period of six months Practical Instruction in a Laboratory approved by the University. The nature of this course is fully indicated by the detailed Syllabus of the Examination in Physics, Climatology, Chemistry, Microscopy, Bacteriology, &c. An Institution applying to be recognised as fulfilling the conditions of the Regulations in regard to the course of Practical Instruction in a Laboratory, shall be required to include in the instruction given in such Institution the various subjects set forth in this Syllabus.
- (b.) A Certificate of having, *after obtaining the M.B., B.Ch., B.A.O. Degrees*, for six months practically studied the duties of out-door Sanitary work under the Medical Officer of Health of a County or large Urban District.

The subjects of this Examination are:—

- Physics;
- Climatology;
- Chemistry;
- Geology;
- Sanitary Engineering;
- Hygiene, Sanitary Law, and Vital Statistics.

On satisfying the Examiners the Candidate must pay a further fee of £3 before the Diploma can be granted to him.

The Candidate must draw up reports on the Sanitary condition of Dwelling Houses, or other buildings selected for the purpose.

* These rules (a), (b), shall not apply to Medical Practitioners registered or entitled to be registered on or before Jan. 1, 1890.

N.B.—Proficiency in practical work and an adequate acquaintance with the instruments and methods of research which may be employed for Hygienic investigations are indispensable conditions of passing the Examination.

DIPLOMA IN MENTAL DISEASES.

This Diploma shall be conferred only on Graduates in Medicine of the University.

Candidates must give notice in writing to the Secretaries of their intention to present themselves, and must pay the prescribed fee of £2, at least one month before the Examination.

Candidates who satisfy the Examiners must pay a further fee of £3 before the Diploma is conferred.

The subjects for this Examination are those prescribed for the Dr. Henry Hutchinson Stewart Scholarship for proficiency in the treatment of Mental Diseases.

BELFAST.

QUEEN'S COLLEGE.

Clinical instruction is given at the Belfast Royal Hospital. The Ulster Hospital for Diseases of Women and Children, the Belfast Maternity Hospital, the Belfast Ophthalmic Hospital, the Ulster Eye, Ear, and Throat Hospital, the Belfast District Lunatic Asylum, and the Belfast Hospital for Sick Children are open to students.

CORK.

QUEEN'S COLLEGE.

Clinical instruction is given at the North and South Infirmaries (each 100 beds). Students also can attend the Mercy Hospital (60 beds), the Cork Union Hospital, the County and City of Cork Lying-in Hospital, the Maternity, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglinton Lunatic Asylum. The session at Queen's College extends from October to April inclusive (thirty weeks), but the hospitals are open to students in May, June, and July also.

GALWAY.

QUEEN'S COLLEGE.

Clinical instruction is given at the Galway County Infirmary and the Galway Town Hospital.

Prizes.—Attached are eight scholarships of the value of £25

each. The Council may award Exhibitions to matriculated students at the examinations for junior scholarship. All scholarships and exhibitions of the second, third, and fourth years may be competed for by students who have attained the requisite standing in any medical school recognised by the College Council, and have passed the Matriculation Examination in the College, or in the Royal University of Ireland.

III.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, IRELAND.

OUTLINE MEDICAL COURSE APPLICABLE TO CANDIDATES FOR THE LICENCES OF THE ROYAL COLLEGES.

These Regulations apply to Candidates commencing Medical Study after 1st January, 1892.

1. Enter for and pass the Preliminary Examination.

The Subjects are as follows :—

Fee £2 2s.
(Matriculated Pupils,
R.C.S., £1 1s.)

- (a) ENGLISH LANGUAGE, including Grammar and Composition.
- (b) LATIN, including Grammar, Translation from specified authors, and Translation of easy passages not taken from such authors.
- (c) MATHEMATICS, comprising—(a) Arithmetic, (b) Algebra, including simple Equations, (c) Geometry, the subject matter of Euclid, Books, i. ii. and iii., with easy deductions.
- (d) ONE OF THE FOLLOWING OPTIONAL SUBJECTS: (a) Greek; (b) any Modern Language; (c) Logic.

And at once—

2. Register as a Medical Student on a form obtainable at the Royal College of Surgeons from the Registrar. No Fee.

3. Enter for and attend
Courses for the First Pro-
fessional Examination.

Six months	Dissections	... £5	5
	Chemistry	... 3	3
Three months	Physics	... 3	3
	Practical Chemistry	5	5
	Pharmacy	... 3	3
	Biology	... 3	3

£23 2

4. Enter for and pass the First Professional Examination.

		SUBJECTS OF EXAMINATION.
Fee, £15 15s.		1. (a) CHEMISTRY; (b) PHYSICS.
(Matriculated Pupils,		2. PRACTICAL PHARMACY.
R.S.C., £10 10s. See note, page 355).		3. ELEMENTARY BIOLOGY.
		4. ANATOMY, viz.—Bones with attach- ments of muscles and ligaments —Joints.

Candidates may take this Examination as a whole at one time, or in four parts, but no portion earlier than the end of the first Winter Session.

5. Enter for and attend Courses for the Second Professional Examination.	Winter	Hospital (9 months)	£12	12
	six months	Anatomy	...	3 3
		Dissections	...	5 5
		Physiology	...	3 3
	Summer	Histology	...	5 5
	three months	Materia Medica	...	3 3
				£32 11

Materia Medica may be deferred to the Third Year.

6. Enter for and pass the Second Professional Examination.

SUBJECTS OF EXAMINATION.

Fee, £10 10s.	1. ANATOMY.—The Anatomy of the whole Human Body.
	2. HISTOLOGY.
	3. HUMAN PHYSIOLOGY.
	4. MATERIA MEDICA—if not deferred.

The Candidate must present himself, in the first instance at least, in Anatomy and Histology; if he pass in either of these subjects, he may, at the discretion of the Examiners, get credit therefor. Physiology and Materia Medica may, at the option of the Candidate, be passed at the end of the second or during the third year.

~~•~~ The Lectures on Physiology must be attended before admission to any part of the Second Professional Examination.

7. Enter for and attend Courses for the Third Professional Examination.	Winter	Hospital (18 months*)	£25	4
	six months	Dissections	...	5 5
		Medicine	...	3 3
		Surgery	...	3 3
		Midwifery	...	3 3
		Pathology	...	3 3
	Summer	Operative Surgery	...	5 5
	three months	Public Health and Forensic Medicine	3	3
				£51 9

* In addition to that attended in the Second Year, with evidence of attendance in Fever Wards.

8. Enter for and pass the Third Professional Examination.^a

Fee, £9 9s.	Subjects of Examination.	
	1. MEDICINE.	
	2. SURGERY.	
	3. PATHOLOGY.	
4. THERAPEUTICS.		

A Candidate must present himself, in the first instance at least, in Medicine, Surgery, and Pathology. Should he pass in either Medicine or Surgery, he shall get credit therefor, even if he has failed in other parts of the Examination.

9. Enter for and attend Courses for the Final Examination.	Maternity Hospital, ^b £6 6s., £8 8s., or ...	£10 10
	Ophthalmic Certificate ...	3 3
	Vaccination ^b ...	1 1
	Clinical Instruction in	
	Mental Diseases ^b ...	3 3
		£17 17

10. Enter for and pass the Final Examination.

Fee, £6 6s.	Subjects of Examination.	
	1. MEDICINE, including MEDICAL ANATOMY and MENTAL DISEASES.	
	2. SURGERY.	
	3. OPERATIVE SURGERY and SURGICAL ANATOMY.	
	4. OPHTHALMIC and AURAL SURGERY.	
	5. MIDWIFERY, including DISEASES OF WOMEN and NEW-BORN CHILDREN, and the THEORY and PRACTICE OF VACCINATION.	

Candidates are not admissible to the Final Examination earlier than the end of the Fifth Year of Medical Study.

Candidates may enter for and pass separately in Medicine, Surgery, and Midwifery.

Colonial Candidates who have taken out a portion of the Course, or have passed Examinations in Australia and elsewhere, have been accorded certain exemptions, which may be learned on application to the Secretary of the Committee of Management.

MARKING.

(a) A numerical system of marks, ranging from 0 to 10, is now in use.

^a This examination cannot be taken earlier than the end of the Fourth Winter Session.

^b May be taken in the Fourth Year.

(b) A uniform standard of 50 per cent. is the passing mark in all subjects, and in all examinations.

(c) In deciding as to whether a candidate has passed in any subject or not, the marks in all the divisions of the subject—written, oral, and practical—are considered together; provided, however, that bad answering in the clinical portion shall not be compensated for by excellence in the other portions of the subject.

EXEMPTIONS.

The analogous Examinations of the various Medical Licensing Bodies are, as a rule, accepted by the Conjoint Board as equivalent to the First, Second, and Third Professional Examinations; but credit will not, save in special cases, be given for separate subjects in which the Candidate has passed elsewhere.

The Entrance Examinations of the Universities, Intermediate Examinations, and Examinations of the College of Preceptors, or other Examinations in General Education recognised by the General Medical Council, are accepted in lieu of the Preliminary Examinations of the Colleges.

Lists of the Examinations which have been already accepted, and the value attached to them, are given in the Conjoint Regulations.

Candidates are referred for detailed information to the Official Regulations published by the Colleges.

MATRICULATION AS PUPIL OF THE ROYAL COLLEGE OF SURGEONS.

All persons proceeding to the study of Medicine may, if approved by the Council, become matriculated pupils of the College on payment of five guineas, and having done so, will enjoy the following privileges:—

1. They will, if matriculated before the preliminary examination, be admitted on payment of £1 1s. (half fee).
2. They will be permitted to study in the Library and Museums of the College.
3. Their fee for the First Professional Examination will be reduced by £5 5s.

DATES OF CONJOINT EXAMINATIONS.

Preliminary	-	-	-	March and October
Professional	-	-	-	April, July, and October.

Fees for Courses of Study payable in the Dublin Schools and Hospitals for the Conjoint Examinations of the Royal Colleges of Physicians and Surgeons, Ireland:—

		£	s.
Three Courses Demonstrations and Dissections at £5 5s. -		15	15
One Course Anatomical Lectures	- - -	3	3
" " Lectures on Physiology	- - -	3	3
" " Surgery	- - -	3	3
" " Theoretical Chemistry	- - -	3	3
" " Materia Medica	- - -	3	3
" " Practice of Medicine	- - -	3	3
" " Midwifery	- - -	3	3
" " Pathology	- - -	3	3
" " Physics	- - -	3	3
" " Practical Histology	- - -	5	5
" " Operative Surgery	- - -	5	5
" " Practical Chemistry	- - -	5	5
" " Public Health and Forensic Medicine	- -	3	3
" " Practical Pharmacy	- - -	3	3
" " Biology	- - -	3	3
 Total Fees for Lectures	- - -	 - £69	 6
Fees for 27 months' Medico-Chirurgical Hospital attendance		37	16
Six months' Midwifery Hospital	£6 6s., £8 8s. or	10	10
Three months' Ophthalmic Hospital	- - -	3	3
Three months' Mental Diseases	- - -	3	3
Vaccination	- - -	1	1
 Total	- - -	 £124	 19

EXAMINATION FEES.

For L. & L.M.,
R.C.P.I., and
L. and L.M.,
R.C.S.I.

First Professional Examination	-	-	£15	15	0
Second Professional Examination	-	-	10	10	0
Third Professional Examination	-	-	9	9	0
Final Professional Examination	-	-	6	6	0
 Total	- - -		 £42	 0	 0

**REGULATIONS FOR CANDIDATES FOR THE CONJOINT
DIPLOMA IN STATE MEDICINE.**

The following Regulations are compulsory on all Candidates beginning the study of Sanitary Science after January 1st, 1894; the date of commencement of study being fixed by the date of the certificates.

Stated Examinations for the Diploma in State Medicine commence on the first Tuesday of the months of February, May, and November, and occupy four days.

A Special Examination for the Diploma can be obtained—except in the months of August and September—on payment of £5 5s., in addition to the ordinary Fees mentioned below, and on giving notice at least one fortnight before the date of the proposed Examination.

Every Candidate for the Diploma in State Medicine must be a Registered Medical Practitioner. He must return his name to the Secretary of the Committee of Management under the Conjoint Scheme, Royal College of Physicians, Dublin, three weeks before the Examination, and lodge with him a Testimonial of Character from a Fellow of either of the Colleges, or of the Royal Colleges of Physicians or Surgeons of London or Edinburgh, together with certificates of study as hereinafter set forth.

Candidates registered as Medical Practitioners or entitled to be so registered after 1st January, 1890, must comply with the following Resolutions passed by the General Medical Council on December 1st, 1893, in regard to Diplomas in State Medicine:—

“(a) This Council, having regard to the terms of Section 18 of the Local Government Act, 1888, and observing that under that section special privilege is to be accorded to the holders of the Diplomas granted under Section 21 of the Medical Act (1886), and therein described as Diplomas in Sanitary Science, Public Health, or State Medicine, thinks it essential to declare, with regard to its own future action under Section 21 of the Medical Act (1886), that it will not consider Diplomas to ‘deserve recognition in the *Medical Register*’ unless they have been granted under such conditions of education and examination as to ensure (in the judgment of the Council) the possession of a distinctively high proficiency, scientific and practical, in all the branches of study which concern the Public Health; and that the Council, in forming its judgment on the conditions of education and examination, will expect the following rules to have been observed:—

“(b) A period of not less than twelve months shall elapse between the attainment of a first registrable qualification in Medicine, Surgery, and Midwifery, and the admission of the Candidate to any examination, or any part thereof, for a Diploma in Sanitary Science, Public Health, or State Medicine.

“(c) Every Candidate shall have produced evidence of having, after obtaining a registrable qualification, attended during six months' practical instruction in a Laboratory or Laboratories, British or Foreign, approved of by the Body granting the Diploma, in which Chemistry, Bacteriology, and the Pathology of the Diseases of Animals transmissible to Man are taught.

“(d) Every Candidate shall have produced evidence that, during a period of six months after obtaining a registrable Qualification, he has either practically studied the duties of outdoor sanitary work under the Medical Officer of Health of a County or large Urban District, or else has himself held an appointment as Medical Officer of Health under conditions not requiring the possession of a Special Sanitary Diploma. The Certificate of an Assistant Officer of Health of a County or a large Urban District may be accepted, provided the Medical Officer of Health of the County or District consents to the Assistant Officer giving such instruction.

“(e) Every Candidate shall have produced evidence that he has attended the Clinical Practice of a Hospital for Infectious Diseases recognised by one of the Licensing Bodies; provided that such a course of instruction may have been taken as part of the Curriculum for his registrable Qualification in Medicine, Surgery, and Midwifery.

“(f) The Examination shall have been conducted by Examiners specially qualified; it shall have extended over not less than four days, one of which shall have been devoted to practical work in a Laboratory, and one to practical examination in, and reporting on, subjects which fall within the special outdoor duties of a Medical Officer of Health.”

* * * “The *Rules* as to study shall not apply to—

“(a) Medical Practitioners registered, or entitled to be registered, on or before January 1, 1890:

“(b) Registered Medical Practitioners who have for a period of three years held the position of Medical Officer of Health of any County, or to any Urban District of more than 20,000 inhabitants, or to any entire Rural Sanitary District.”

“These *Rules* shall apply to all Diplomas granted after January 1, 1894, provided that the *Rules* passed by the Council on June 1, 1889, and November 25th, 1890, shall continue to apply to Candidates who had commenced special study in Sanitary Science prior to January 1, 1894.

* * * The Executive Committee [of the General Medical Council] has power, in special cases, to admit exceptions to the Rules for the Registration of Diplomas in Sanitary Science, and report the same to the General Council.

The Fee for the Examination is Ten Guineas, which must be lodged in the Ulster Bank, Dublin, to the credit of the Committee of Management, at least two weeks before the date fixed for the Examination. Fees are not returned to any Candidate who withdraws from, or is rejected at, any Examination. The Fee for re-examination is Five Guineas.

The Examination for the Diploma in State Medicine comprises the following subjects:—State Medicine and Hygiene, Chemistry, Meteorology and Climatology, Engineering, Morbid Anatomy, Vital Statistics, Medical Jurisprudence, Law.

DENTAL EDUCATION AND EXAMINATIONS IN IRELAND.*

The Royal College of Surgeons in Ireland grants Diplomas in Dental Surgery under conditions of which the following is a synopsis:—

The Candidate must be twenty-one years of age.

The Candidate must have passed three Examinations.

1. Preliminary (identical with the Medical Preliminary).
2. Primary Dental. Fee, £10 10s. (This Examination is much the same as the Second Conjoint Professional.)
3. Final Dental Examination. Fee, £10 10s. Candidates are examined in Dental Surgery and Pathology, and in Mechanical Dentistry and Practical Metallurgy.

Candidates are required to do gold fillings, and construct mechanical work in the presence of the Examiners.

The Certificate required may be divided into General and Special.

1. The General Certificates required are about the same as those required by the Medical Student for the Second Conjoint Professional Examination.

The Special Certificates may be subdivided into—

1. Dental Hospital. 2. Practical Mechanical Dentistry.
 1. Dental Hospital. Two years' attendance, with Lectures in Dental Surgery and Pathology and in Mechanical Dentistry and Orthodontics. Fee, £28 7s.
 2. Practical Mechanical Dentistry. Three years' instruction from a Registered Dentist. The fee for this is variable, but may be set down at from £50 to £150.

Large Reductions in the Special Certificates required are made in the cases of qualified Medical Practitioners.

We are indebted to the *Lancet*, Sept. 7, 1895, for the following Table, which we have revised and corrected in some minor points:—

*Fuller particulars can be obtained by application to the Registrar, Royal College of Surgeons, St. Stephen's-green, Dublin.

Tabular List of the Classes, Lecturers, and Fees at

LECTURES, &c.	DUBLIN UNIVERSITY	DUBLIN. R. C. OF SURGEONS		DUBLIN, CATHOLIC UNIVERSITY
	Lecturers	Lecturers	Fees	Lecturers
Histology and Physiology	..	Prof. Scott		Dr. Coppinger and Dr. Coffey†
Anatomy, Descriptive and Surgical	Dr. Cunningham	Prof. Fraser and Nixon		Dr. Birmingham
Practical Anatomy and Dissections	Dr. Cunningham	Prof. Fraser and Nixon		Dr. Birmingham, assisted by Dr. Fagan and Dempsey
Chemistry	Dr. Reynolds	Prof. Sir C. Cameron and Lapper		Dr. Campbell
Practical Chemistry	Dr. Reynolds			Dr. Campbell*
Materia Medica and Pharmacy	Dr. W. G. Smith	Prof. Duffey		Dr. Quinlan*
Botany and Zoology	Dr. Wright Prof. Mackintosh	Prof. Minchin and Coagrade §		Dr. Sigerson and Mr. Blaney
Institutes of Medicine and Pathology	Dr. Purser	Prof. Myles		Dr. McWeney
Natural Philosophy	Prof. Fitzgerald	..		Prof. Stewart†
Hospital Practice	Sir P. Dun's or other Dublin Hospitals	The various Dublin Hospitals		The various Dublin Hospitals
Clinical Lectures	..	..		..
Surgery	Dr. E. H. Bennett	Profs. Sir W. Stokes and W. Stoker		Mr. P. J. Hayes and Mr. McArdle
Operative Surgery	..			
Midwifery, &c.	Dr. A. V. Macan	Prof. S. R. Mason		Dr. A. J. Smith
Medicine	Dr. Finny	Prof. J. W. Moore		Sir C. J. Nixon
Medical Jurisprudence	Dr. Bewley	Prof. Auchinleck		Mr. Roche
Comparative Anatomy	Prof. Mackintosh	..		Dr. Sigerson and Mr. Blaney†
Practical Pharmacy	Dr. W. G. Smith	Prof. Duffey		Dr. Quinlan
Logic	The College Tutors	..		Medical Register: Dr. Birmingham Dr. Coffey†
Physics	..	Prof. Lapper		..
Psychological Medicine	..	..
Pathology	Dr. Purser	Prof. Myles		Dr. McWeney
Ophthalmology and Otology	..	Profs. Jacob, Fitzgerald, and Story		Dr. Werner
Hygiene	Dr. Bewley	Sir Charles Cameron		Mr. Roche

* In Summer.

† In Winter and in Summer

Medical Schools of Ireland for the Session 1895-96.

BELFAST, QUEEN'S COLLEGE		CORK, QUEEN'S COLLEGE		GALWAY, QUEEN'S COLLEGE	
Lecturers	Fees First Course	Lecturers	Fees First Course	Lecturers	Fees First Course
Dr. W. H. Thompson	£ 1. 3 0	Dr. J. J. Charles	£ 1. 3 0	Dr. Pye	£ 1. 3 0
Dr. J. Symington	3 0		..	Dr. Pye	3 0
Dr. Symington and Demonstrators	..	Dr. Charles and Demonstrators	3 0	Dr. Pye and Demonstrators.	4 0
Dr. Letts	2 0	Dr. Augustus E. Dixon	2 0	Dr. Senier	2 0
Dr. Letts†	2 0	Dr. Augustus E. Dixon	2 0	Dr. Senier	2 0
Dr. W. Whittle	2 0	Dr. C. Y. Pearson	2 0	Dr. Colahan	2 0
Dr. B. O. Cunningham	2 0	Professor Hartog	2 0 each	Dr. R. J. Anderson	2 0
..	..	..	..	Dr. Lynham	2 0
Dr. J. D. Everett	2 0	Mr. William Bergin	2 0	Professor Anderson	2 0
other Royal and other Hospitals	..	North and South Infirmarys	..	Galway Hospital, Gal- way Union Hospital, and Galway Fever Hospital	Seas. 4 4
..	..	..	..	Dr. Kinkead, Pye, Brereton, Colahan, and Lynham	..
Dr. Sinclair	2 0	Dr. S. O'Sullivan	2 0	Dr. W. Brereton	2 0
Dr. Sinclair*	2 0	..	..	..	..
Dr. J. W. Byers	2 0	Dr. Corby	2 0	Dr. Kinkead	2 0
Dr. Cumming	2 0	Dr. E. R. Townsend	2 0	Dr. Lynham	2 0
Dr. Hodges	2 0	Dr. C. Yelverton Pearson	..	Dr. Senier } Dr. Kinkead }	2 0
..	..	..	2 0	[Modern Languages: Professor Steinberger]	..
Dr. V. G. L. Fielden	2 0	..	..	..	2 0
Professor J. Park	2 0	Professor Stokes	1 0	Dr. T. W. Moffett	2 0
..
..	..	Dr. Oscar Wood	..	..	..
Dr. J. Lorrain Smith	2 0	Dr. Cotter	2 0	Dr. Lynham	2 0
..	..	Dr. Sandford	..	..	..
..	..	Dr. Donovan	..	..	..

† Zoology in Winter; Botany in Summer.

§ Including Biology.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;

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Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, September 7, 1895.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Aug. 17.	Aug. 24.	Aug. 31.	Sept. 7.		Aug. 17.	Aug. 24.	Aug. 31.	Sept. 7.
Armagh	28.0	28.0	21.0	28.0	Limerick	23.9	16.8	19.6	15.4
Belfast	19.8	18.7	19.5	21.0	Lisburn	12.8	21.3	4.8	12.8
Cork	18.7	26.3	14.5	17.3	Londonderry	40.8	22.0	26.7	22.0
Drogheda	17.6	4.4	18.2	26.4	Lurgan	27.4	22.8	9.1	4.6
Dublin	23.8	20.4	28.6	21.0	Newry	16.1	4.0	36.2	32.2
Dundalk	25.1	37.7	12.6	12.6	Sligo	35.5	5.1	30.5	20.3
Galway	30.2	15.1	18.9	22.7	Waterford	5.0	22.5	10.0	17.5
Kilkenny	4.7	9.4	23.6	23.6	Wexford	27.1	18.1	4.5	9.0

In the week ending Saturday, August 17, 1895, the mortality in thirty-three large English towns, including London (in which the rate was 17.8), was equal to an average annual death-rate of 19.1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 16.6 per 1,000. In Glasgow the rate was 15.4. In Edinburgh it was 17.1.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 22.0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 8.0 per 1,000, the rates varying from 0.0 in six of the districts to 5.1 in Sligo—the 7 deaths

from all causes registered in that district comprising 1 from diarrhoea. Among the 104 deaths from all causes registered in Belfast are 1 from scarlatina, 1 from diphtheria, 4 from enteric fever, and 12 from diarrhoea. The 27 deaths in Cork comprise 2 from whooping-cough and 2 from diarrhoea. The 17 deaths in Limerick comprise 1 from scarlatina and 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to 165—87 boys and 78 girls; and the registered deaths to 161—84 males and 77 females.

The deaths, which are 3 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24.0 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 23.3 per 1,000. During the first thirty-three weeks of the current year the death-rate averaged 30.4, and was 2.4 over the mean rate in the corresponding period of the ten years, 1885—1894.

The number of deaths from zymotic diseases registered was 25, being 3 below the average for the corresponding week of the last ten years, and 8 under the number for the previous week. The 25 deaths comprise 1 from small-pox, 2 from scarlet fever (scarlatina), 2 from influenza and its complications, 1 from whooping-cough, 1 from enteric fever, 1 infant from choleraic diarrhoea, and 16—10 infants under 1 year old, 5 children aged 1 year and under 5 years, and 1 boy aged 6 years—from diarrhoea (being 3 over the average number of deaths from that cause in the corresponding week of the last ten years). The death from small-pox is that of a male child aged 1 year and 6 months, unvaccinated.

Only 3 cases of small-pox were admitted to hospital, against 5 admissions in the preceding week, 6 in the week ended August 3, and 9 in the week ended July 27. Four small-pox patients were discharged, 2 died, and 25 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week. This number does not include 3 convalescents still under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

Thirteen cases of enteric fever were admitted to hospital, being equal to the admissions in the preceding week and 7 over the number in the week ended August 3. Two patients were discharged, and 40 remained under treatment on Saturday, being 11 under the number in hospital on that day week.

The hospital admissions included, also, 14 cases of scarlatina, being 1 over the number of cases of that disease admitted during

the preceding week. Ten patients were discharged, 1 patient died, and 63 remained under treatment on Saturday, being 3 over the number in hospital at the close of the preceding week.

Twelve deaths from diseases of the respiratory system were registered, being 2 over the number for the previous week, but 4 below the average for the 33rd week of the last ten years. They comprise 5 from bronchitis and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 24, the mortality in thirty-three large English towns, including London (in which the rate was 16.9), was equal to an average annual death-rate of 19.9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 16.6 per 1,000. In Glasgow the rate was 15.0, and in Edinburgh it was 19.6.

The average annual death-rate in the sixteen principal town districts of Ireland was 19.8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2.5 per 1,000, the rates varying from 0.0 in seven of the districts to 9.1 in Lurgan—the 5 deaths from all causes registered in that district comprising 1 from enteric fever and 1 from diarrhoea. Among the 98 deaths from all causes registered in Belfast are 1 from measles, 1 from scarlatina, 2 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 6 from enteric fever, and 7 from diarrhoea. The 38 deaths in Cork comprise 1 from typhus and 4 from diarrhoea. The 14 deaths in Londonderry comprise 1 from scarlatina and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 187—98 boys and 89 girls; and the registered deaths to 140—66 males and 74 females.

The deaths, which are 15 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 20.9 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 20.4 per 1,000. During the first thirty-four weeks of the current year the death-rate averaged 30.1, and was 2.3 over the mean rate in the corresponding period of the ten years, 1885-1894.

The number of deaths from zymotic diseases registered was 13, being 12 below the average for the corresponding week of the last ten years, and also 12 under the number for the previous week. The 13 deaths comprise 1 from scarlet fever (scarlatina), 1 from

influenza, 1 from whooping-cough, and 9—6 infants under 1 year old and 3 children aged 1 year and under 5 years—from diarrhoea (being 4 below the average number of deaths from that cause in the corresponding week of the last ten years).

The number of cases of small-pox admitted to hospital was 3, being equal to the admissions in the preceding week, and 2 under the number admitted in the week ended August 10. Ten small-pox patients were discharged, and 18 remained under treatment on Saturday, being 7 under the number in hospital at the close of the preceding week. This number is exclusive of 3 convalescents under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

Only 4 cases of enteric fever were admitted to hospital, being 9 under the admissions in the preceding week, and also 9 under the number in the week ended August 10. Five patients were discharged, and 39 remained under treatment on Saturday, being 1 under the number in hospital on that day week.

The hospital admissions included, also, 10 cases of scarlatina, against 14 in the preceding week, 4 patients were discharged, and 69 remained under treatment on Saturday, being 6 over the number in hospital at the close of the preceding week.

Eighteen deaths from diseases of the respiratory system were registered, being equal to the average for the 34th week of the last ten years, and 6 over the number for the previous week. They comprise 10 from bronchitis and 7 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 31, the mortality in thirty-three large English towns, including London (in which the rate was 15.9), was equal to an average annual death-rate of 19.9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17.3 per 1,000. In Glasgow the rate was 18.0, and in Edinburgh it was 15.6.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 20.4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3.0 per 1,000, the rates varying from 0.0 in eight of the districts to 14.0 in Armagh—the 3 deaths from all causes registered in that district comprising 1 from whooping-cough and 1 from diarrhoea. Among the 102 deaths from all causes registered in Belfast are 1 from whooping-cough, 1 from diphtheria, 4 from simple continued fever, 5 from enteric fever,

and 10 from diarrhoea. The 21 deaths in Cork comprise 1 from enteric fever and 3 from diarrhoea. The 17 deaths in Londonderry comprise 1 from each of the following diseases—scarlatina, enteric fever, and diarrhoea. The Registrar for the City of Derry No. 2 District remarks—“There is a number of cases of enteric fever and of scarlatina in the district.”

In the Dublin Registration District the registered births amounted to 211—109 boys and 102 girls; and the registered deaths to 158—79 males and 79 females.

The deaths, which are 11 below the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23.6 in every 1,000 of the population. During the first thirty-five weeks of the current year the death-rate averaged 29.9, and was 2.1 over the mean rate in the corresponding period of the ten years, 1885-1894.

Twenty-five deaths from zymotic diseases were registered, being 12 over the number for the previous week, but 9 below the average for the corresponding week of the last ten years. The 25 deaths comprise 2 from chicken-pox, 1 from influenza, 3 from whooping-cough, 5 from enteric fever, 1 from choleraic diarrhoea, and 11—7 infants under 1 year old, 3 children aged 1 year and under 5 years, and 1 adult—from diarrhoea (being 7 below the average number of deaths from that cause in the corresponding week of the last ten years).

The number of cases of small-pox admitted to hospital was 3, being equal to the admissions for each of the two weeks preceding. Six small-pox patients were discharged, and 15 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week. This number is exclusive of 3 patients under treatment in the South Dublin Union Small-pox Hospital, Kilmainham.

Seventeen cases of enteric fever were admitted to hospital, being 13 over the admissions in the preceding week, and 4 over the number admitted in the week ended August 17. One patient was discharged, 1 died, and 54 cases remained under treatment on Saturday, being 15 over the number in hospital on the previous Saturday.

The hospital admissions included, also, 19 cases of scarlatina, being an increase of 9 as compared with the admissions in the preceding week. Twelve patients were discharged, and 76 remained under treatment on Saturday, being 7 over the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system

was 18, being 6 below the average for the thirty-fifth week of the last ten years, and 5 under the number for the previous week. They comprise 8 from bronchitis, 2 from pneumonia or inflammation of the lungs, and 1 from pleurisy.

In the week ending Saturday, September 7, the mortality in thirty-three large English towns, including London (in which the rate was 16.1), was equal to an average annual death-rate of 19.9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17.5 per 1,000. In Glasgow the rate was 16.7, and in Edinburgh it was 17.5.

The average annual death-rate in the sixteen principal town districts of Ireland was 20.2 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2.6 per 1,000, the rates varying from 0.0 in ten of the districts to 5.0 in Belfast—the 110 deaths from all causes registered in that district comprising 2 from scarlatina, 2 from whooping-cough, 1 from diphtheria, 6 from enteric fever, and 15 from diarrhoea. Among the 25 deaths from all causes registered in Cork are 2 from enteric fever and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 190—103 boys and 87 girls; and the registered deaths to 149—77 males and 72 females.

The deaths, which are 12 below the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22.2 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the district, the rate was 21.0 per 1,000. During the first thirty-six weeks of the current year the death-rate averaged 29.7, and was 2.0 over the mean rate in the corresponding period of the ten years, 1885-1894.

The number of deaths from zymotic diseases registered was 15, being 10 under the number for the previous week, and 18 below the average for the corresponding week of the last ten years. The 15 deaths consist of 1 from scarlet fever (scarlatina), 1 from influenza, 2 from whooping-cough, 1 from diphtheria, 1 from enteric fever, 8—5 infants under 1 year old, 2 children aged 1 year and under 5 years, and 1 adult—from diarrhoea (being 10 below the average number of deaths from that cause in the corresponding week of the last ten years), and 1 from erysipelas.

The number of cases of small-pox admitted to hospital was 4

being 1 over the admissions for each of the three weeks preceding. Six small-pox patients were discharged, and 13 remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week. This number is exclusive of 1 convalescent in the South Dublin Union Small-pox Hospital, Kilmainham.

The number of cases of enteric fever admitted to hospital was 10, being 7 under the admissions in the preceding week, but 6 over the number in the week ended August 24. Nine enteric fever patients were discharged, and 55 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

The hospital admissions included, also, 7 cases of scarlatina, being a decrease of 12 as compared with the admissions in the preceding week. Fourteen patients were discharged, and 69 remained under treatment on Saturday, being 7 under the number in hospital that day week.

The deaths from diseases of the respiratory system, which had fallen from 18 in the week ended August 24 to 13 in the following week, further decreased to 10, being 8 below the average for the thirty-sixth week of the last ten years. They comprise 6 from bronchitis and 3 from pneumonia or inflammation of the lungs.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of August, 1895.

Mean Height of Barometer, - - - - -	29.818	inches.
Maximal Height of Barometer (on 25th, at 9 a.m.),	30.216	"
Minimal Height of Barometer (on 11th, at 9 a.m.),	29.247	"
Mean Dry-bulb Temperature, - - - - -	58.8°.	
Mean Wet-bulb Temperature, - - - - -	56.8°.	
Mean Dew-point Temperature, - - - - -	54.1°.	
Mean Elastic Force (Tension) of Aqueous Vapour, -	418	inch.
Mean Humidity, - - - - -	85.0	per cent.
Highest Temperature in Shade (on 28th), -	71.7°.	
Lowest Temperature in Shade (on 25th), -	46.3°.	
Lowest Temperature on Grass (Radiation) (on 25th), - - - - -	41.6°.	
Mean Amount of Cloud, - - - - -	66.8	per cent.
Rainfall (on 27 days), - - - - -	3.548	inches.
Greatest Daily Rainfall (on 10th), - - - - -	.700	inch.
General Directions of Wind, - - - - -	S.W., W.	

Remarks.

Like August, 1894, this month was very rainy. In Dublin rain was measured on as many as 27 days, and the total fall was nearly three-quarters of an inch in excess of the average. Unlike August, 1894, however, the month was fairly warm—the mean temperature being slightly above the average. This was due to comparative warmth by night—the mean minimum temperature being 54.2° compared with the average 53.6° , while the mean maximum was exactly the average—namely, 65.8° . There was an overwhelming prevalence of S.W. and W. winds, S. and N.W. being the next most frequent quarters from which the wind blew. Two-thirds of the sky was clouded throughout the month, compared with three-fourths in August, 1894.

In Dublin the arithmetical mean temperature (60.0°) was slightly above the average (59.7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 58.8° . In the thirty years ending with 1894, August was coldest in 1881 (M. T. = 57.0°), and warmest in 1893 (M. T. = 63.0°). In 1885 the M. T. was only 57.1° ; in 1879 (the "cold year") it was 57.7° ; in 1887, 60.3° ; in 1888, 58.2° ; in 1889, 58.6° ; in 1890, only 57.2° ; in 1891, 58.1° ; in 1892, 60.0° ; in 1893, 63.0° ; and in 1894, 57.9° .

The mean height of the barometer was 29.818 inches, or 0.079 inch below the corrected average value for August—namely, 29.897 inches. The mercury marked 30.216 inches at 9 a.m. of the 25th, and fell to 29.247 inches at 9 a.m. of the 11th. The observed range of atmospheric pressure was, therefore, .969 inch—that is, a little less than an inch.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 58.8° , or 1.9° above the value in August, 1894. It was also 0.8° above the value for July, 1895. Using the formula, $\text{Mean Temp.} = \text{Min.} + (\text{max.} - \text{min.} \times .47)$, the mean temperature was 59.7° , or 0.4° above the average mean temperature for August, calculated in the same way, in the twenty-five years, 1865-89, inclusive (59.3°). The arithmetical mean of the maximal and minimal readings was 60.0° , compared with a twenty-five years' average of 59.7° . On the 28th the thermometer in the screen rose to 71.7° —wind, W.S.W.; on the 25th the temperature fell to 46.3° —wind, N.W. to W.S.W. The minimum on the grass was 41.6° , also on the 25th.

The rainfall was 3.548 inches, distributed over 27 days. The average rainfall for August in the twenty-five years, 1865-89, inclusive, was 2.825 inches, and the average number of rainy days

was 15.5. The rainfall, therefore, and also the rainy days, were considerably in excess of the average. In 1874 the rainfall in August was very large—4.946 inches on 18 days; and in 1868, also, 4.745 inches fell on, however, only 13 days; but the heaviest downpour in August occurred in 1889, when 5.747 inches were registered on 22 days. On the other hand, in 1884, only .777 inch was measured on 8 days. In 1887, 1.520 inches of rain fell on 16 days; in 1888, 1.270 inches on 12 days; in 1890, 2.799 inches on 19 days; in 1891, 4.953 inches on 25 days; in 1892, 3.557 inches on 22 days; in 1893, 2.713 inches on 16 days; and in 1894, 3.726 inches on 18 days.

High winds were noted on as many as 8 days, but did not attain the force of a gale on any occasion in Dublin. A thunderstorm occurred on the 11th, and lightning was seen on the 10th. Temperature reached 70° in the screen on 4 days. The atmosphere was foggy on the 15th.

The weather was broken during the first three days. On Thursday, the 1st, a considerable and tolerably brisk fall of the barometer set in, as a new series of low pressure systems approached the British Islands from the Atlantic. At 7.45 p.m. heavy rain fell in Dublin, and the wind freshened from the southward. Next day (Friday) thundershowers occurred in many districts, and hail was reported from Cambridge. Saturday was dull and chiefly wet in England. In the evening and at night rain fell in torrents in many places. The barometer fell to 29.22 inches at 8 a.m. at Stornoway. In Dublin it fell to 29.291 inches at 9 p.m. of Saturday (wind, W.). On Friday the screened thermometer rose to 65.8. Rain was measured on all three days to the amount of .667 inch, .460 inch falling on Saturday. The prevailing wind was S.W.

The record for the week ended Saturday, the 10th, is again one of unsettled, showery weather. The type of distribution of atmospheric pressure was throughout cyclonic. On Sunday a large area of low barometer covered the British Isles, the absolute minimum (29.24 inches) being found at 8 a.m. at Spurn Head in Yorkshire. During the day heavy thunder showers occurred in the S.E. of England and also in the Co. Wicklow. At Greystones the fall of rain and hail amounted almost to an inch and the thunder and lightning were exceptionally violent. On Monday another depression advanced across Ireland from W.S.W., causing a renewed rainfall, particularly over the southern half of this country as well as in Wales and the S. and E. of England. During the next two days heavy showers fell at intervals, being accompanied by thunder in

the Thames valley and along the E. coast of England. At 8 a.m. of Thursday another depression had arrived off the S.W. of Ireland, whence it travelled towards N.N.E., accompanied by renewed rain or passing showers. On Saturday again a depression passed across Ireland, so that the weather was kept in a changeable state to the very close of the week. In Dublin the mean height of the barometer was 29.580 inches, pressure varying between 29.316 inches at 9 a.m. of Sunday (wind, W.N.W.) and 29.824 inches at 9 p.m. of Wednesday (wind also W.N.W.). The corrected mean temperature was 57.6°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 57.1°. On Thursday the thermometer in the screen fell to 48.0°, on Friday it rose to 68.6°. Rain fell daily to the amount of 1.116 inches, .145 inch being measured on Sunday and .700 inch on Saturday. The prevalent winds were once more N.W. and S.W. Sheet lightning was seen on Saturday evening.

The unsettled, changeable, showery weather observed in previous weeks continued throughout the week ended Saturday, the 17th. After Monday, however, the rains were not so heavy—at least near Dublin—and there was a decided advance in temperature. The week opened with a well-marked cyclonic system lying over Ireland and travelling northwards. At midnight of the 10–11th a rainstorm passed over Dublin from the southward, accompanied by vivid lightning and distant thunder. At Holyhead no less than 2.68 inches of rain fell in this storm. On Sunday, Monday, and Tuesday heavy showers fell at intervals in connection with the same disturbance, the centre of which passed directly over Dublin about 11 a.m. of Sunday, when the wind suddenly shifted from E.S.E. to W.N.W. At 8 a.m. of Monday the depression was central over the Hebrides and in its rear the barometer was rising generally throughout England and Ireland. During Tuesday a secondary system of low pressure passed up the English Channel, reaching the Netherlands on Wednesday morning and Eastern Prussia 24 hours later. This disturbance caused very heavy rains in the S. and E. of England, and afterwards in Germany. At 8 a.m. of Wednesday the rainfall measurements were—in London .81 inch, at Cambridge 1.06 inches, and at Yarmouth 1.69 inches. With the passing away of this depression conditions improved, except in Scotland and the N.W. of Ireland, and on Friday morning an anticyclone lay over England, Wales, and France. On Saturday a large area of relatively low barometer was spreading eastwards across Ireland from the Atlantic, and the weather again fell into a showery condition. In Dublin the mean atmospheric pressure was 29.869 inches, the barometer ranging between 29.247

inches at 9 a.m. of Sunday (wind, E.S.E.) and 30.183 inches at 9 a.m. of Thursday (wind, S.). The corrected mean temperature was 60.3°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 59.6°. On Tuesday the screened thermometers sank to 51.2°, on Saturday they rose to 70.6°. The rainfall was .585 inch on seven days, .247 inch being recorded on Monday. The prevailing winds were W.S.W. and S.S.W. The air was foggy on Thursday evening.

During the earlier part of the week ended Saturday, the 24th, anticyclonic conditions held, the weather being warm and fine, except in the extreme West and North of our Islands, where the amount of cloud remained large and more or less rain fell daily. On Wednesday a very sudden change for the worse took place, the anticyclone retreated south-eastwards, and a shallow complex depression—with several minima—became developed over Ireland and England. As usually occurs under such circumstances, the atmosphere became close and oppressive, much sea-fog and cloud formed, and destructive thunderstorms broke out in the south of Ireland, over the greater part of England, and in Denmark. In Dublin a heavy downpour of rain occurred on Thursday, amounting to .518 inch, but there was no thunderstorm. On Friday a V-shaped secondary depression passed eastwards to the southward of Ireland; this caused the wind to veer to N.W. or N. in this country, and the weather became at once colder, clearer, and finer. On Saturday, cumuli formed in the clear, cold atmosphere and heavy evaporation showers resulted. In London the thermometer rose to 81° in the shade on three days—Monday, Wednesday, and Thursday. In Dublin the mean height of the barometer was 29.959 inches, pressure ranging between 29.742 inches at 9 a.m. of Friday (wind, S.W.) and 30.191 inches at 9 p.m. of Saturday (wind, N.W.). The corrected mean temperature was 61.0°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 59.5°. On Sunday the screened thermometers rose to 70.0°; on Saturday they fell to 49.0°. Rain fell on six days to the total amount of .737 inch, .518 inch being measured on Thursday. The prevalent winds were S.W. and N.W.

In the week ended Saturday, the 31st, the weather improved (except in the far North and North-west) as the week advanced, and became fine, warm, and breezy, having been at first dull, rainy and damp. As in many previous weeks, the distribution of atmospheric pressure was mainly anticyclonic in Central Europe, cyclonic over the Atlantic, the northern half of the British Isles, and in Scandinavia. Hence, the weather was comparatively fine

in the South, blustering and rainy in the North. At the very beginning of the period, a remarkable dip in temperature occurred—the thermometer falling early on Sunday morning to 46° in Dublin, 45° at Aberdeen, 44° in London and at Parsonstown and Oxford, 42° at Cambridge and Loughborough, and 41° at Nairn. A dull, wet day followed, but temperature rose fast with a S.W. wind. Monday was also rainy in most places, the rainfall being heavy in Ireland, Wales and Scotland, and the North of England. A depression of great size and depth now passed northeastwards to Norway, causing S.W. gales at exposed stations, and squally S.W. to W. winds in many places. At 4.45 p.m. of Tuesday a brilliant double rainbow was seen in Dublin. The last four days of the week were warm, breezy and changeable in Dublin; hot and fine in France and the S. of England; squally and showery or rainy in the N. of Ireland, Scotland, and Scandinavia. In Dublin the mean height of the barometer was 29.974 inches, atmospheric pressure ranging between 30.216 inches at 9 a.m. of Sunday (wind, W.S.W.) and 29.640 inches at 9 a.m. of Tuesday (wind, W.). The corrected mean temperature was 60.4° . The mean dry bulb temperature at 9 a.m. and 9 p.m. was 59.8° . The shade thermometers rose to 71.7° on Wednesday, having fallen to 46.3° on Sunday. Rain fell on four days to the amount of .449 inch, .281 inch being registered on Monday. The prevalent winds were S.W. and W. At the close of the week temperature was low over Northern Europe.

The rainfall in Dublin during the eight months ending August 31st amounted to 20.333 inches on 123 days, compared with 9.455 inches on 96 days during the same period in 1887, 17.264 inches on 121 days in 1888, 18.893 inches on 184 days in 1889, 18.386 inches on 137 days in 1890, 15.888 inches on 117 days in 1891, 17.279 inches on 131 days in 1892, 14.379 inches on 108 days in 1893, 21.859 inches on 148 days in 1894, and a twenty-five years' average of 17.558 inches on 128.1 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in August, 1895, was 4.735 inches distributed over 24 days. Of this quantity 1.180 inches fell on the 10th, in addition to .945 inch on the 4th. The total fall since January 1 amounts to 22.685 inches on 107 days, compared with 25.206 inches on 131 days in 1894, 16.341 inches on 106 days in 1893, and 21.296 inches on 108 days in 1892.

PERISCOPE.

Modern Pharmacy.

ONE of the most prominent exhibits at the Annual Museum of the British Medical Association, held in the Examination Hall of the Colleges of Physicians and Surgeons, in the first week of August, was the artistic display of Burroughs, Wellcome & Co., of Snow Hill Buildings, London. This firm has fitted out every important British exploring expedition for many years, and it made a prominent show of the trophies of these highly satisfactory outfits. As an instance of what this firm is capable, in the matter of compactness of medical outfits, a tiny medicine chest, the smallest in the world, was shown. It was about the size of a locket, and contained 500 doses of medicine. A great variety of unused medicine cases and chests fitted with "tabloids" of compressed drugs and adapted for every conceivable purpose were exhibited.

The most interesting part of the section devoted to "tabloids" was undoubtedly that where preparations of organic remedies of animal origin were shown. It was not until prolonged experiments proved the unreliability of the various processes for the preparation of extracts of animal organs that the "tabloid" form was adopted for this class of medicament. The whole substance of the organ is thus secured, and the presence of the active principles assured. Clinical experiments made by leading physicians and repeatedly published in the various medical journals, prove the reliability of these laboratory experiments. Among the better recognised "tabloids" of animal substance prepared by this firm may be mentioned those of the thyroid and thymus glands, supra-renal capsules; didymin; cerebrin; the pituitary body; the pineal gland; bone medulla, ovarian, kidney and uterine wall substances.

In Burroughs, Wellcome and Co.'s bacteriological laboratory, in which the application of the "tabloid" system to animal organs was worked out, a very important discovery was made. This firm was the first in Great Britain to prepare liquid anti-diphtheritic-serum for general supply to the medical profession, and as some doubt was thrown on the keeping qualities of the liquid form of this substance, research was undertaken to ascertain whether the serum could not be prepared in a dry form. As the result of their investigations, they now prepare a serum of full potency and high concentration in the form of beautiful golden non-diliquescent but readily soluble scales. These scales keep much

better than the old liquid serum, and are therefore well adapted for export to the tropics, and for physicians who wish to keep a supply of the serum by them ready for emergencies.

In view of the proximity of another important exhibit, that of Fairchild Bros. & Foster of New York, a little bottle in one of Burroughs, Wellcome & Co.'s cases was of surpassing interest. This bottle contained some of the first pancreatic extract ever made, and was exhibited by Dr. George Harley at the Leeds meeting of the British Association for the advancement of science in 1857. At this meeting Dr. Harley showed for the first time that pancreatin possesses within itself the digestive properties of saliva, gastric juice and bile, being able to convert starch into sugar, dissolve albuminous substances and emulsify fats. Unfortunately his process for the isolation of active principles was too expensive for practical work, and it was not till many years afterwards that Dr. Fairchild, of New York, hit upon a simple, cheap, and effective process. In order to distinguish his preparation, he gave it the name of "zymine," and as such it has since been known, and was exhibited at this museum by Fairchild Bros. & Foster. "Zymine" is a patent pancreatic extract containing all the active principles of the organ from which it is prepared in a pure dry powder. It contains, in an exceedingly active form, the following fermenta:— Trypsin, converting albumen into peptone; diastase, converting starch into dextrin and sugar; the emulsive ferment essential to the assimilation of fats and oils; and the milk curdling ferment.

Pepsencia was another preparation in strong evidence at Fairchild Bros. & Foster's exhibit. This is obtained by direct maceration from the stomach of the pig and calf, and is either taken as a digestive aid diluted with water, or used for the preparation of digestive junkets.

THE DANGER OF USING NICOTINE FOR FUMIGATING VINES.

MR. FREDERICK B. FISHER M.R.C.S. Eng., of Dorchester, gives the following timely warning in the *Dorset County Chronicle and Somersetshire Gazette* of September 12, 1895:—"This bottle contains the pure nicotine of tobacco in a highly concentrated form." Such is the description on the label of the contents of a bottle recently handed to me. The nicotine had been used for fumigating a viney with the apparent result of killing the insects and poisoning the grapes, for six people after partaking of the bunches on different occasions rapidly became ill, exhibiting the well-known symptoms of an overdose of tobacco. Three of the cases were for a time alarming, and all suffered considerably. I have reason to

believe that this pure nicotine has recently found great favour with gardeners and others on account of its great insecticide powers; and I daresay it may be safely used (the user taking great care not to inhale the fumes himself) in greenhouses containing only flowers, but it is evident it must not be used in houses in which anything eatable is growing. It cannot be too widely known that pure nicotine is as deadly a poison as prussic acid. Thinking the publication of these facts might possibly prevent some further mishaps, I venture to bring them to your notice."

AMERICAN MEDICAL SCHOOLS.

THE *Medical Record* believes that of the one hundred and forty Medical Schools in the United States there are only fourteen which absolutely require a four-year course of medical lectures. Nearly one hundred schools announce that they graduate on three terms of lectures, and about twenty-five on two terms, the length of the term varying from five to nine months.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Fehling's Test Bipalatinoids.

MESSRS. OPPENHEIMER, SON, & CO., of London, have applied to Fehling's test for grape sugar the bipalatinoid principle for the development of which the firm has become so famous. Sulphate of copper is enclosed in one section of the bipalatinoid, caustic and tartarated soda in the ether. When the bipalatinoid is placed in a test tube containing a little of the urine suspected of being saccharine, and the whole is boiled, the central diaphragm dissolves and the sugar test is ready. If sugar is present, the blue colour first formed is changed to a muddy yellow; if there is no sugar, the blue colour remains. Each bipalatinoid will be reduced by .00235 grammie of glucose or diabetic sugar. The test is convenient, portable, and reliable.

Thyroid Gland Palatinoids.

Messrs. Oppenheimer have also prepared many animal substances, such as the pituitary body, the suprarenal capsule, the thymus gland and the thyroid gland in the form of palatinoids. Being hermetically sealed in a jujube covering they are not so prone to decomposition as when they are supplied in the form of a powder or of a pellet. The thyroid powder palatinoids are each equivalent to five grains of the fresh gland. The dose is one or two, as directed by the physician.

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PART I. ORIGINAL COMMUNICATIONS.

ART. XIII.—*Diet in the Aetiology and Treatment of Diseases of the Skin.** By WALTER G. SMITH, M.D.; ex-President of the Royal College of Physicians of Ireland; Physician-in-Ordinary to his Excellency the Lord Lieutenant.

LET me, in the first instance, ask—have we any certain or exact scientific knowledge of the influence of diet in the causation of diseases of the skin?

The belief in the potency of this influence is universal with the laity, and widely acknowledged by the profession generally. But the practice of physicians is partly traditional, and is, unfortunately, not always based upon real conviction or sound knowledge. Many circumstances conspire to tempt them to give formal advice which rests upon a slender foundation.

I start with the two propositions, that the real influence of diet in the causation of skin diseases is a small one, much less than it is credited with, and that our substantial knowledge of the subject is still more limited.

Fundamentally, the action of food and of drugs is to be explained upon similar general principles. But great as are the difficulties of forming a correct judgment of the mode of action of a drug, still greater are the complexities which surround questions of dietetics in the causation of cutaneous affections.

*Read in the Section of Dermatology, British Medical Association, London, August, 1895.

We are always, and in all places, confronted with the problem of the idiosyncrasy of the individual, which is a real and perplexing difficulty, and we should be more cautious than we are in formulating cut and dry rules for the guidance of our patients' stomachs. In very many cases an intelligent and temperate patient knows, or ought to know, better than his doctor what suits him, and what aggravates his complaint.

I heartily endorse Sir W. Roberts' simple and sensible rule of conduct, viz., "It may be regarded as certain that any food or food accessory, the use of which is followed by a sense of discomfort, is not beneficial to that individual" (*Dietetics*, p. 106); and, conversely, as Pye-Smith puts it, "What most people eat is for most people wholesome, and what a natural appetite finds appetising seldom disagrees."

The tendency of modern inquiries has been largely towards the more exact determination of aetiological factors; hence we have been gradually led to minimise laying stress upon vague and indefinite conceptions, such as diatheses and the like, and of these vague causes diet is, I think, one so far as the skin is concerned. Moreover, the rise and progress of bacteriology has profoundly modified our notions of the cause of many diseases of the skin and influenced our treatment. I need only allude to the pathology of boils, carbuncles, and acute suppuration generally.

Although it is by no means proven that eczema, and, even less, psoriasis, are parasitic diseases, still the mere ventilation of such a possible cause for these affections tends to throw into the background loose speculations and traditional surmisings as to the effect of dietetic causes in originating diseases of the skin.

We may picture to ourselves four modes or ways, at least, in which diet may possibly influence the skin:—

I. Through the general nutrition of the body. Nutrition is influenced in a very subtle manner by the quality of the food (Roberts), and insufficient or improper food lowers the tone of all the tissues, skin included. Under such conditions we meet with scorbutic and purpuric affections. Destructive and pyogenic microbes find a more suitable soil whereon to fasten, and hence arises a greater liability to pustular and gangrenous developments.

The fungus of "thrush" lies in wait for debilitated constitutions, and favus is far more common among the neglected and ill-fed poor.

II. By acting as a reflex stimulus from the gastro-intestinal surface. This is doubtless the most common mode. The physiological relationship between the skin and the digestive mucous membrane is incontestable, and proofs are abundant.

Over-eating, on the one hand, and, on the other, the use of unsuitable, indigestible, or irritating articles of diet, are frequently followed by either neurotic or vaso-motor disturbance in the skin—*e.g.*, urticaria.

The skin affections producible in this way are all transitory, and disappear spontaneously, as a rule, when the causes cease to act.

Many people eat far too much and overload their digestive energies, and some of them would pay a worse penalty than they do were it not for the dinner pill, the morning saline, or the occasional visit to Carlsbad.

Three practical considerations flow from these thoughts :—

(a) The utility of purgatives in such cases.

(b) The importance of good cookery in avoiding or overcoming dietetic irritation.

(c) The due regulation of diet as to quantity and kind.

III. By absorption into the blood of irritating substances, or of products of chemical change, which indirectly affect the skin.

In this direction we may look for explanation, in part at least, of the occasional injurious effects of tinned and preserved foods. Pathogenic bacteria may undoubtedly enter the body with articles of diet.

We are all familiar by daily observation with the hyperæmia of the skin which ensues upon full doses of alcohol.

IV. The skin may suffer in virtue of being one of the channels or avenues of elimination. Certain drug eruptions arising from volatile oils or oleo-resins—*e.g.*, copaiba, cubeb, and turpentine, are, perhaps, explicable upon this hypothesis. And, upon similar grounds, we caution our patients against the use of highly-seasoned foods and spices (*i.e.*, volatile oils) in erythematous and acute inflammatory affections of the skin.

To turn now to another aspect of the question—viz., diseases of the skin in relation to diet. We can at once make three groups:—

1. Cutaneous diseases liable to originate in, or acknowledged by common consent to be materially influenced by, diet.
2. Cutaneous diseases possibly, but not proven to be, influenced by diet.
3. Cutaneous diseases certainly not affected by diet—e.g., herpes, pemphigus, lichen ruber, ichthyosis, ringworm, &c.

In Class 1 we may instance:—

- (a) Erythema; certain forms of.
- (b) Urticaria.
- (c) Pruritus.
- (d) Acne Rosacea.
- (e) Acne Vulgaris, perhaps.

Bulkley states that in some persons crops of acne follow the free use of buckwheat (*Eczema*. 2nd Ed., p. 291).

Pye-Smith affirms that in some patients a fresh outbreak of follicular inflammation can be produced at will by eating "crystallised" fruits, strawberry jam, or orange marmalade (*Brit. Journ. of Derm.*, July, 1895.)

In Class 2 may be placed psoriasis, most cases of eczema, and of acne vulgaris.

Eczema in children is very frequently attributed to dietetic influences, such as too free use of sugar, or even of milk. But for my part, I quite concur with Dr. Cheadle in never having been able to satisfy myself that eczema is a diet disease (Cheadle, *Artificial Feeding of Infants*, p. 161). Many infants attacked with severe eczema are of a ruddy colour, have a good appetite, and with all the appearance of excellent health.

It is the present habit to ascribe many skin diseases to gout, and we hear every day of "gouty eczema," "gouty psoriasis," and the like, and patients ask for, and expect to get from us, minute directions about their culinary arrangements. Yet few English practitioners conversant with diseases of the skin, would go so far as Brocq in saying that the regulation of the diet is the most efficacious internal treatment for eczematous patients.

The hypothesis of leprosy having been transmitted by food of any kind, and in particular by fish, has not been established

by further examination. Boils are often ascribed to errors or deficiencies in diet. With our knowledge of the pathogeny of boils and acute suppurations, it is, to my mind, incredible how a crop of boils, as is stated on good authority, can arise through mere change of diet—e.g., a surplus of animal food.

In England the consumption of meat is 136 lbs. per head per annum. In France it is only 46 lbs. per head per annum. Are boils so much more common in England? Eczema affects the sexes almost equally, although men probably eat two-thirds of the total meat consumed, and drink probably three-fourths of the total alcohol consumed in the United Kingdom.

If we direct our thoughts to determine what special articles in our dietary may be held responsible for harming the skin, we have not a long list, as will be gathered from the preceding remarks.

Coffee, tea, perhaps highly spiced foods, excessive use of hard, salted meats, shell-fish, abuse of alcohol, and foods such as starch and other carbohydrates, which may lead to production of excess of acids (acetic, lactic, butyric) in the intestines. A wide-spread and deeply rooted custom is the strict prohibition of salted food in diseases of the skin. For many years I have ignored this rule, and neither my patients nor myself have had reason to regret the liberty accorded to them.

Chloride of sodium is a very harmless salt, and some people with weakly digestion or a jaded appetite will relish and easily digest a thin slice of ham when the stomach would revolt against other meat. It is high time that medical men should emancipate themselves from lazy acquiescence in, or mere blind following of, tradition.

Does alcohol in moderation cause any skin affection? That it is apt to aggravate itching and increase an already existing congestion of the skin is quite true.

Most of the Asiatic populations, with the exception of the Japanese and the Indian Parsees, drink no alcohol. Yet I do not know that this experiment, on the large scale, indicates any advantage to those races *quoad* the skin.

I cannot but believe that the ill effects of alcohol, and I may add, of tobacco, are exaggerated by their extreme opponents.

Plenck (quoted by Bulkley) remarks of acne—“*Plures curavi suadendo, ut vinum bibere incipient.*”

Lastly, a word as to the practical outcome of all this.

How are we to answer intelligently the questions so often addressed to every one of us by our clients—What shall I eat? What shall I drink?

In cases such as diabetes, gastric ulcer, and enteric fever, there is a tolerable degree of unanimity in our answers.

But what about the slighter ailments and indispositions which constitute the bulk of our practice?

A large number of our patients with affections of the skin are not obviously out of health, and are well able for their day's work in the world. Yet many of these persons are apt to ponder over their health, put us through a catechism as to their diet, almost constrain us to go beyond our knowledge, and even glory in the dietetic chains which are fastened around them by their medical advisers. Unluckily, it sometimes happens that one practitioner's rules flatly contradict those of his neighbour, and so a shrewd patient is liable to arrive at the unpleasant conclusion that, as Sir W. Roberts puts it, our notions on dietetics are little better than a farrago of whims and fancies. We are too formal in our rules, and impose unnecessary and unmeaning restrictions. We prescribe diet by printed forms, making no allowance for idiosyncrasies, and giving even our educated patients little or no latitude or opportunity for their own sense of what is good and what is bad for them.

In my judgment, the main precept we need enjoin as a golden rule upon our patients suffering from diseases of the skin, is moderation and temperance in all matters of eating and drinking, especially as regards alcohol; and we should seek to train the public to observe for themselves whether such and such an item of diet really agrees with them or not.

With all this borne in mind, there is plenty of room for judicious advice tempered with common sense, and a hint or a suggestion is often better, although less showy, than the imposition of conventional rules. This latter course is, no doubt, sometimes requisite with the hypochondriac, the sensualist, or the careless, who will not listen to, or are incapable of understanding the still small voice of healthy instincts and of personal experience.

To sum up in a few words :—

1. Very few skin diseases are directly traceable to dietetic causes, but improper diet may aggravate existing eruptions. Idiosyncrasy must be largely allowed for.
2. The diseases that may so arise are of a transitory character, and mostly belong to the class of erythema.
3. Diet has very little influence in promoting the cure of cutaneous eruptions. The results are far behind popular expectations, even in such cases as acne rosacea, where we are led to hope for much.
4. Avoidance of alcohol, regulation of the bowels, and the cure of anaemia, are of infinitely greater importance than special dieting in the management of diseases of the skin.*

ART. XIV.—*On the Limitation of Chronic Rheumatic Arthritis to Parts of Joints.*^b By E. H. BENNETT, M.D., F.R.C.S.; Surgeon to Sir P. Dun's Hospital; Professor of Surgery, Trinity College, Dublin.

THE specimens which I submit are examples of a remarkable feature to be noticed in certain joints affected by chronic rheumatic arthritis—namely, the strict limitation of the disease to parts of the articular surfaces. I am well aware of the fact that in almost every joint there are particular spots in which the disease, in its ordinary form, shows its effects most—where it starts and attains its greatest development; but, in general, one can trace the effects of the disease over all the joint in some degree. In the examples I now exhibit, while the disease is fully developed in one spot or district of the joint the other parts of the joint appear absolutely healthy, only the opposing surfaces of the limited area are affected; or, as in this example, the scapula-humeral joint is healthy, but the lesser tuberosity of the humerus, and the tendons in contact with it are affected.

Of this disease in the shoulder I present two examples—the first a dry and macerated humerus, the second a recent

* I have discussed this matter with my friend, Dr. Wallace Beatty, and these propositions represent our joint views.

^b Read before the Section of Pathology of the Royal Academy of Medicine in Ireland, November 2, 1894.

specimen which shows all the details of the disease. Without the knowledge supplied by this recent specimen, I am certain many would question my diagnosis of the deformity which the dry bone presents. In it the lesser tuberosity of the humerus looks as if it had been ground down to its base, and the inner limit of the bicipital groove is gone. The surface of the head of the bone is normal without any feature of chronic rheumatic wearing of the cartilage, or any of the deposits of bone on its margins so familiar in the ordinary forms of the disease.

The recent specimen, which enables us to read correctly the features of the dry one, attracted attention before the dissection of the shoulder by its deformity. It presented many of the features of an unreduced dislocation of the humerus beneath the coracoid process, for the upper extremity of the bone lay in this position. The acromion process projected strongly, and the deltoid region was flattened. There was not, however, any difficulty in pressing the elbow against the chest wall, and the motions of the joint were much less restricted than in the old unreduced dislocations which I have dissected. I left the diagnosis open, and made the dissection with care to determine the question as to whether the displacement was to be regarded as pathological or traumatic.

I noted the fact that the opposite shoulder was normal, and that the other joints did not appear diseased. I looked in two directions for evidence to determine the question. I dissected the attachment of the sub-scapular muscle, and, cutting it across in the sub-scapular fossa, I reflected the tendon towards the upper end of the humerus. In doing this I found that the capsule of the shoulder had not been ruptured in this position at any time nor the sub-scapular tendon, and that the bursal pouch, which extends out towards the sub-scapular fossa from the joint, was normal. These facts go to prove that the joint had not been the subject of antero-internal traumatic dislocation.

I next dissected the long tendon of the biceps muscle, and found that it had acquired an abnormal attachment to the humerus in the upper part of its groove, and to the capsule of the shoulder as it does in the ordinary form of

chronic rheumatic arthritis of the shoulder. A part of the tendon in the joint can be traced on the inner surface of the capsule, but not frayed in shreds as in the ordinary disease. These points go far to establishing the diagnosis of pathological dislocation, for in the traumatic the tendon of the biceps is usually intact. Now, when the capsule is raised on the inside of the bicipital groove, we find the sub-scapular tendon in a great measure absorbed, only adherent to the capsule, and the lesser tuberosity absorbed, as in the dry specimen, and its surface presents the appearance of absorption of bone by chronic rheumatic arthritis.

I would now show a couple of specimens from other joints which display this remarkable restriction of chronic rheumatic arthritis, as attested by the destruction of the articular cartilage and the wearing away of the bone, while the adjoining joint surfaces remain quite unaffected. Here is a radius in which the depression for the scaphoid bone is cut clean away, and the bone is deeply grooved and highly polished while the depression which lodges in the semilunar bone is free from disease, and its cartilage quite normal. In this case I have, unfortunately, got none of the other parts of the wrist, the radius only being preserved.

In the skeletons of two hands, which I preserved for another purpose, we find in one the polish of eburnation developed to the full in the articulation between the scaphoid bone and the radius, while the semilunar district of the joint is quite healthy. No other joint of this hand exhibits any rheumatic disease, and in the opposite wrist only the articulation of the pisiform bone with the cruciform and the first metacarpo-carpal joint present any rheumatic changes. In the latter joint they are the result of the damage done to the joint by fracture of the base of the metacarpal bone, and are therefore to be classed as traumatic. Clearly these examples are not the product of the form of chronic rheumatic arthritis that Professor Adams described under the title "constitutional." I think whatever view we may take of the essential nature of this disease, whether we regard it as the product of a special blood poison, as the name "constitutional" would suggest,

or as attributable to nerve influences, or to failure of nutrition or atrophy of the joint structures, or, again, as set up by injury as it probably has been in these examples, we must put aside the idea that suggests itself so readily in examining joints affected by the more common form of the disease—namely, that the tissue primarily affected is the cartilage; that in the changes which are seen in so-called “true velvety degeneration” of the articular cartilage we see the first essential pathological change.

We read in Billroth's lectures the following:—“The disease chiefly affects the cartilage, secondarily the synovial membrane also, as well as the periosteum and bone; in most cases the cartilage is primarily attacked.” In the disease as it appears in the shoulder joints which I have presented it occurs where there is no cartilage. I have already published instances of the disease as it occurs in bursæ, which do not contain any cartilage. So that this tissue although very commonly the first seat of the disease, is not an essential for its existence.

The fact that the disease can exist in a restricted part of a joint without causing any damage to the general cavity, puts aside the idea that changes in the synovial secretion originate the degeneration of the cartilage. The examples which I have shown are instances of what I might term the most local variety of the disease, which Prof. Adams described thus:—“As a purely local disease it has been frequently found to have originated in accident.”

ART. XV.—*Malignant Tumour of the Middle Ear.** By J. B. STORY, M.B., F.R.C.S.I.; Surgeon to St. Mark's Ophthalmic Hospital.

THE extreme rarity of malignant growths in the middle ear induces me to bring the following case before the Academy:—

CASE.—Mr. W. E. was sent to me for an affection of his left ear by my friend Dr. Whitty, of Waterford, in September, 1894. The only history to be obtained was that the ear had been running

* Read before the Section of Pathology of the Royal Academy of Medicine in Ireland, April 5, 1895. [For discussion on this paper, see p. 455.]

for two months or longer, and been causing him constant pain, which had become much worse of late, subsequent to the extraction of some decayed teeth. In spite of this ear trouble and the pain he had been in good health enough to bathe constantly during the summer.

On examining the ear I found a most foetid otorrhoea, and a large polypus springing apparently from the posterior and upper portion of the tympanum. There was a painful swelling at the apex of the mastoid process, which I regarded as inflammatory, but there was no tenderness of the skin over the mastoid process itself, nor tenderness on deep pressure.

I removed the polypus with Wilde's snare, and the painful swelling below the apex of the mastoid disappeared within two days after the operation. I found then what I had not observed before, a small granulation at the very entrance of the meatus on the posterior wall—there was no fistulous opening in it, and all the foetid pus came from the tympanic cavity. Mr. E. could not stay in Dublin for further treatment, and went home to use antiseptic lotions under Dr. Whitty's supervision.

About a month later he returned to Dublin in a worse state than before, severe pains shooting all over the left side of his head, the swelling below apex of mastoid larger than before, a foetid discharge, and a large bleeding polypus filling up lower part of meatus.

On October 31st I removed part of this polypus, and detected necrosed bone on anterior wall of meatus. Three days later I put him under chloroform, with the assistance of my colleague, Mr. Arthur Benson, and cleared out all the granulations in the meatus with a curette. I then found both the anterior and posterior walls of the meatus necrosed—apparently the whole tympanic ring being implicated.

November 8th I removed a loose piece of bone from the anterior wall of meatus, and on the succeeding night he had the first good night's sleep he had had for weeks.

During the next fortnight, however, the swelling in the neck, before described, went on increasing, and a gland at the angle of the jaw began to enlarge also. The meatus, too, began to fill up again with granulations, and I had to clear them away a second time—this time with electro-cautery under local anaesthesia induced by cocaine.

The swelling in the neck then began to subside, and air passed easily through the Eustachian tube and tympanum by Politzer's method. The violent pain, however, still persisted, though not so constantly as before.

He left Dublin only to return after some ten days, unable to bear the pain, and requiring hypodermics of morphia to enable him to sleep.

I found then the granulations in the meatus increasing again, and the swelling in the neck larger. It was plain that though some of the swelling was probably inflammatory—viz., an abscess—much of it was caused by mere glandular enlargement. I cantered the granulations, and made the meatus and tympanum clear again, but there was no improvement in his condition, and Mr. Tobin then saw him with me in consultation, and I had the great advantage of his assistance in the subsequent conduct of the case.

We considered at that time that the disease was probably inflammatory, and that the best chance for the patient was to give free exit for purulent and other discharges by establishing good drainage.

On December 18th we made an opening into the mastoid by chiseling away some diseased and some healthy bone. Whether this opening extended into the antrum or not I am not even now perfectly certain. We got no pus from it at all events, and the only result in the patient's condition was that from that time till the end he never suffered again from the intolerable deep-seated pain he had in his head.

A week later we curetted the diseased gland at the angle of the jaw. No pus or caseous material was found in it. We also made an incision along the posterior border of the sternocleidomastoid muscle, over the most prominent portion of the diffused and apparently inflammatory swelling of the neck, and having divided the deep fascia passed a director and dressing forceps deeply into the tissues, and plugged with iodoform gauze. At the same time we removed some granulations from the meatus, which (alone) still continued to discharge foetid pus.

Some ten days later M. E. had some teeth removed from the left side, believing that the pain he now suffered from might be caused by the teeth. I took the opportunity while he was under ether of probing the meatus and mastoid wound very thoroughly. In both there was necrosed bone firmly fixed in its place, and from the meatus there was still a foetid discharge.

The wounds were dressed daily, and the meatus syringed out with an antiseptic lotion. For a long time the water was able to pass down the Eustachian tube when the meatus was syringed, and the foetor quite disappeared from the pus in the meatus.

No particular change occurred for some weeks.

On January 4th, and again on January 20th, a piece of necrosed bone was removed.

On January 23rd he developed Bell's palsy.

On January 26th several spicules of dead bone were removed. Towards the end of January his speech began to be affected. Latterly he was only able to speak in a whisper, and that with great difficulty. He also developed a profuse expectoration of thick viscid slimy mucus, which at first came solely from his pharynx, but, after a time, was also coughed up from the larynx and trachea. This expectoration became very much diminished in quantity after a time, and the lungs themselves were never actually diseased. The optic discs were healthy when last examined shortly before his death. The swelling in the neck slowly increased, and all the glands of that side of it began to enlarge one by one, and it became evident to us that the patient was suffering not solely from inflammation and caries of the temporal bone, but from some neoplasm which had originated in the tympanic cavity or in some deeply-situated portion of the temporal bone. This view was also impressed upon us by the gradual appearance of florid granulation springing out of the incision which had been made for the purpose of affording free drainage, and was finally rendered certain by microscopical examination of portions of tissue, which was very kindly made for us by Professor Scott.

The patient gradually became weaker, and died early in the month of March, less than eight months after the first observation of any aural trouble.

Professor Scott will inform the Academy as to what the new growth is, histologically.

I have looked up some authorities on the subject of cancerous growths originating in the middle ear or temporal bone. They are extremely rare.

Wilde ("Aural Surgery") records three cases of malignant fungus occurring in his practice, all of which implicated the tympanum and temporal bone, and probably also originated in either of these localities.

Toynbee records also three cases—two of encephaloid cancer and one of fungus haematoxides. He believes the disease originates in the tympanic cavity.

The observations recorded by more modern writers are few and unsatisfactory. So far as I can ascertain no case similar to that here recorded has been described in any publication since these of Wilde and Toynbee.

That primary malignant growths in the tympanum or temporal bone are extremely rare may be inferred from the fact that, for the last seventeen years, during which I have

been on the staff of the largest ophthalmic and aural hospital in Ireland, and for the most of that period at the head of the institution, where we see some 1,000 new ear cases every year, no case of malignant disease has been observed.

Report by PROFESSOR SCOTT on Mr. Story's case of malignant disease of middle ear:—

"Two very small portions were placed in my hands, one having been removed from the extreme auditory meatus, and the other from the fungating tissue at the edge of the wound in the neck. These pieces were hardened, and when cut were found to have a similar structure. The mass consisted of a number of small cells, either round or oval-shaped or fusiform—the round shape predominating—between which could be seen fine fibres of connective tissue. Small blood vessels were numerous, these being generally surrounded by a small amount of loose connective tissue. In my opinion the neoplasm must be regarded as a sarcoma."

ART. XVI.—*Notes on a Case of Typhoid Fever, with rare and rapidly fatal complications.*^a By ALFRED R. PARSONS, M.B., Univ. Dubl., F.R.C.P.I.; Physician to the City of Dublin Hospital.

RICHARD B., aged twenty-two, by occupation a labourer, was admitted to the City of Dublin Hospital, under my care, on the 31st October, 1894, complaining of feeling ill and unable to work. His father and mother were both healthy, and his two sisters and two brothers were also in good health. He himself had never been ill previously. For ten or twelve days previous to admission he had been feeling poorly, and had been troubled with diarrhoea and some slight epistaxis.

On admission, he complained chiefly of headache, vomiting, pains in the back and legs, and general weakness. Physical examination—T. 105°, pulse 104, respirations 28; but nothing abnormal was detected in his lungs or heart. There was no tenderness over the abdomen, no distension, no spots, no enlargement of any organ, and the spleen was not palpable.

He was sponged with cold water, and the temperature fell from 105°, at 7 30 p.m., to 103.2° at 9 15 p.m. His urine was normal, except for a faint trace of albumen.

November 3rd.—Crepitant râles were audible over the front and

^a Read before the Section of Pathology of the Royal Academy of Medicine in Ireland, November 30th, 1894. [For the discussion on this paper, see Vol. XCIX., page 345.]

back of his chest, and he was rather troubled with a cough which, he said, "shook" him very much. There was also some slight distension of the abdomen, and some half-dozen spots of an ill-defined character were visible.

For the first eight days after admission the bowels moved once or twice daily. As a rule, light coloured, formed motions were passed, but about the 21st day of his illness he became rather constipated and an enema was occasionally necessary. He slept tolerably well at night, took two or three pints of milk and a pint of beef tea or cocoa daily; and although the pyrexia was rather severe, its tendency on the whole was downwards, from the time of his admission to hospital. His pulse, till the day before his death, never exceeded 108, and his respirations varied from 28 to 36.

From the duration of his illness, and the absence of any distinct physical signs, I looked upon the case as one of typhoid fever; though I felt it was typhoid fever only by exclusion, and that, consequently, the diagnosis was not so certain as if based on positive signs.

From the 26th day of his illness the decline of his temperature was still more marked, so that on the morning of the 32nd day his temperature was 97°. On that day he seemed very well and made no complaint at all, except for a little pain in his throat. An examination revealed slight enlargement of his left tonsil, and this, I thought, was quite sufficient to explain the pain. That evening the temperature rose to 102·4°, but fell the following morning to 99°. His abdomen was examined again on the 33rd day of his illness, but nothing abnormal could be detected. His temperature, however, commenced to rise, and about 1 p.m. reached 105°. That evening I had a note from the resident medical pupil, Mr. William Croly, asking me to come round and see the patient at my earliest convenience, as he did not seem so well as in the morning. I went to the hospital about 7 30 and heard that, at 3 0 p.m., the patient had gone asleep, and awakened, some time after 4 0 p.m., with difficulty in breathing. His respirations were so loud that they could be heard at a distance of 15 or 20 yards. Dr. Palmer and my resident pupil examined his chest, but could find no pulmonary mischief to account for his dyspncea. Hot, moist applications were tried, and seemed to give some temporary relief, but, as there was no distinct improvement, I was at once communicated with. On examination there was considerable dyspncea, distinct laryngeal stridor, sucking in of suprasternal and supraclavicular spaces; distinct, but feeble phonation, a temperature of 100·8°, pulse 140, and respirations 50. He was rather pale, slightly livid about the lips, and sweating slightly on forehead. A hasty laryngoscopic exami-

nation, which, needless to say, was made with great difficulty, revealed an enormously swollen and brilliantly red epiglottis, with some yellowish material along its edges. It was manifest that an acute oedema of the glottis had occurred, and that the only way by which relief could be afforded was a tracheotomy. Arrangements were at once made, and the senior surgeon, Mr. Henry Gray Croly, communicated with. Mr. Croly arrived in a few minutes and decided on performing the low operation, so as to get away, as far as possible, from the laryngeal mischief. The trachea was situated deeply, and considerable venous haemorrhage took place. On opening the trachea a distinct improvement in the patient's aspect was noticed, but each attempt at inserting the tube seemed to bring on a spasm of coughing. After the tube, on one occasion, had been worn for a few minutes, it was noticed that the tapes had become very tight. Presently the neck was found to be considerably swollen, the face became puffed and tympanitic, the upper part of the trunk showed a similar condition, and in a few hours the emphysema had extended down to Poupart's ligaments. The patient passed a restless night, the pulse became weaker and more frequent, and about 11 a.m. the following day the patient died.

The *post-mortem* examination, which was made twelve hours after death, revealed such extensive swelling of the epiglottis and surrounding structures that the vocal cords, on looking into the larynx, were quite invisible. Along the lateral margins of the epiglottis was a greyish material which did not present the characters of a false membrane, but looked much more like a superficial necrosis, the result of a very acute inflammation. When the parts were sufficiently pressed asunder to allow of a view of the vocal cords, it was found that they were quite normal. The tracheotomy wound was directly in the centre and quite free. The lungs were engorged with blood, and no abnormality was detected in the heart. In the abdomen, the spleen was somewhat enlarged and soft. The intestines seemed normal till within about two feet of the ileo-caecal valve a small circular ulcer in a Peyer's patch was found. Two other ulcers, a little lower down, the larger of which was immediately above the valve, and about the size of a two-shilling piece, were present, and a few small circular ulcers were found in the large intestine. There was also distinct enlargement and congestion of the mesenteric glands.

The appearances at the autopsy, therefore, confirmed the clinical diagnosis of typhoid fever. The small amount of ulceration and, more especially, the shape of the ulcers, are not without interest. As a rule, typhoid ulcers are oval in shape and have their long axis in the length of the intestine, but, occasionally,

R. M^cE., male, aged 22.

they assume the circular form. (See plate accompanying the article on "Abdominal Typhus" in the Real Encyclopädie der gesammten Heilkunde).

The most remarkable feature in this case was the sudden onset of acute laryngeal symptoms. Except slight hoarseness, most probably the result of a little catarrh, laryngeal complications in these countries are exceedingly rare. Murchison, with his enormous experience, met only three or four cases of ulceration of the larynx in typhoid fever, while on the Continent, Hoffmann states, it is present in 28 out of 250 cases. Zuelzer observed it in more than 20 per cent. of the fatal cases, and Griesinger found it present in 31 out of 118 autopsies. The condition has been described as perichondritis typhosa by Rokitansky. Lüning states that œdema was present in 9 out of 115 autopsies of enteric fever cases, in which there were serious laryngeal complications. With regard to the cause of these ulcers, different views have been held by various authors. Dr. Watson Williams succeeded in isolating the bacillus typhosus from one of these ulcers, and consequently believes that these lesions are to be looked upon as specific typhoid ulcers. This view has also been held by Rokitansky and Mackenzie, while Hilton Fagge and Murchison considered them rather as secondary lesions. Unfortunately, in this case, no cultures were made from the laryngeal ulcers, and, consequently, no conclusive evidence can be deduced as to their nature; but, so far as a microscopic examination of the diseased parts is of any weight, it goes to support the latter view, inasmuch as the sections present enormous numbers of micrococci.

The occurrence of emphysema is, I think, to be looked upon as one of those rare complications of a tracheotomy, the explanation of which is obscure; but, at the same time, it must be borne in mind that, in a few cases of typhoid fever, emphysema has occurred in which no tracheotomy was performed. It was Dr. Wilks who first satisfactorily explained this very rare condition, by pointing out an ulcer on the posterior part of the trachea, through which the air escaped into the tissues. It is, therefore, conceivable that the emphysema may, in this case, have happened quite independently of the operation.

ART. XVII.—*Acromegaly, with Ocular Complications.** By ARTHUR BENSON, M.A. Univ. Dubl., F.R.C.S.I.; Ophthalmic and Aural Surgeon to the City of Dublin Hospital; Junior Surgeon to St. Mark's Ophthalmic Hospital.

ACROMEGALY is a disease which, of recent years, has attracted a good deal of attention, and yet about which very little is definitely known. I thought that the notes of a case which I had under observation might not be without some interest to this Section, as such cases are of equal interest to the ophthalmologist, the physician, and the pathologist; and each case carefully noted may assist the statistician in arriving at general conclusions:—

CASE.—M. C. H., aged thirty-eight; bachelor; farmer.

History.—Father died at the age of eighty; mother died at the age of fifty-five. Both had been strong, healthy people, and died from acute diseases. The patient has two brothers younger than himself, and one sister, older; one sister died at the age of twenty from “cold caught at school.” The living members of family are all strong and healthy. His father was always a big, bony man, and his brothers also are big, strong, bony men, but light and active, not stout like the patient. He used to weigh twelve stone at his best. Twelve years ago, in 1883, he hurt his left knee and leg by the fall of a cart of oats. This prevented him from taking his usual exercise for a long time. He used to ride a great deal and hunt, but since 1883 he had to stop hunting, and gradually got very much heavier than before. His general health, however, seemed good, but he got a bit “lazier in himself,” and slept at odd times during the day more than before, and also at night he slept very well. His appetite was good, and all the functions of the body were regularly performed. He never suffered from headache, but now and again felt a sort of feeling as of blood in the head. He never had pain in the eyes.

In January, 1892, he had an attack of influenza, not severe. After this he began to find that he required more light to enable him to see clearly at night.

On June 8th, 1892, he consulted me on account of a failure of sight in both eyes, because he found difficulty in counting cattle in

* Read before the Section of Pathology of the Royal Academy of Medicine in Ireland, November 30, 1894. [For the discussion on this paper, see Vol. XCIX., page 344.]



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MR ARTHUR BENSON ON ACROMEGALY.

the field, &c. He would count them differently each time and could never feel sure that he was right. He then stated that the defective sight was first noticed about two or three years before, but that it had got worse for the last six or eight months. He smoked two or three ounces of twist tobacco in the week. His vision was $\frac{6}{60}$ in each eye, with an almost total central scotoma for colour, and defective colour sense over the whole of the temporal half of each field of vision, the defect in the left eye being decidedly greater than in the right eye. The colour vision of the nasal halves was fairly perfect. When first seen the central vision was only $\frac{6}{30}$ and peripheral vision $\frac{6}{18}$. After three weeks' use of iodide of potassium and cessation from smoking, the central vision improved to $\frac{6}{6}$. There were perivasculär white lines (thickening of tunica adventitia) along both veins and arteries on the disc, and for a short distance on the retina, otherwise the fundus seemed normal unless for a doubtful paleness of the disc. He was then a large, heavy man, but I regarded him as a naturally big, heavy man, and made the diagnosis of toxic amblyopia, advised the stopping of tobacco, and he was to come back in a few weeks, which he did, as above stated, with almost perfect vision. He returned home, promising to abstain from smoking and return in a few months' time to report progress. I regret that through stress of circumstances no chart of the field was made at this time.

The next time that I saw him was on November 17th, 1894, i.e., after an interval of two years and five months. He stated then that he had had perfect health and sight from the time that I saw him before till about two months ago; since then the sight had rapidly failed. He had taken to smoking again, and partly blamed that for his trouble—that is to say, that for two years and three months, while he had abstained from smoking, he had enjoyed "perfect sight" according to his own estimate. He was now a different-looking man; his face and hands in particular struck me, and his figure was bent, and he seemed to require a stick to steady himself with. There was no abnormality discoverable in thyroid or thymus gland.

His face and head had grown large and heavy-looking. His nose was large, his under-jaw prognathous, and the ramus long, and the mouth heavy-looking. The eyelids were puffy, and the eyes prominent, with slight strabismus. The ears were very large, especially the left one. His hands were large and "spade-shaped," and the fingers round and sausage-like. His feet, also, were most remarkable-looking, and the joints of ankles, wrists, and elbows, were very massive. His pose was quite characteristic. The back

and shoulders were stooped, and the prominent chin almost touched his chest. His speech was rather slow, but his intelligence seemed quite unimpaired.

He complained of little except what he called a "dumb pain" in the arms and legs; he had but little strength in legs and hands, and his grasp was very feeble for such a giant fist and arm. He was not sensitive to pain, and complained of feeling "dull in himself."

As a young man, hunting, he found it hard to get gloves large enough to fit him, and since then his hands have grown very much larger, and he has in every way increased in size. He used to be known as a strong, active man, and very handsome. The change in the shape of his mouth is what most attracted his friends' attention.

His cranium has increased slightly. He used to wear a hat $6\frac{1}{2}$; now he wears $7\frac{1}{2}$. He has had to get his boots made larger, and his legs have numerous large varicose veins, and he has the characteristic stoop of the shoulders. He is more disposed to sleep than formerly, and his appetite is excessive. He has no feeling of thirst, nor does he drink any fluid in excess.

His general health seems to be perfect, and he is free from every other organic lesion. His urine is free from albumen and sugar and indican, but rich in urates and uric acid crystals.

The vision in each eye had again fallen to $\frac{5}{60}$; the right eye being the better of the two. The discs were very similar in appearance to what they were in 1892, but more definitely atrophic, though the perivascular thickening was not increased.

November 20th, 1894.—In consultation with Dr. Hawtrey Benson, it was decided to put him on thyroid extract, one tabloid each day to begin with, and it was suggested that possibly pituitary extract might be of use.

The next day the patient came to tell me that he found the left eye was quite blind. On testing him this was found to be the case—L. V. = bare perception of light. But there was no change in the ophthalmoscopic appearances.

In consequence of this sudden loss of sight in the left eye, I asked my colleague, Dr. Story, to see him in consultation, and he agreed in the diagnosis of acromegaly, but advised to put him back for a time on the iodide of potassium mixture, which had done him, apparently, so much good in 1892. Subsequently I had the advantage of consultation with Dr. Fitzgerald and Mr. Swanzy.

The right field of vision shows a remarkable configuration. There is a total central scotoma, combined with a semi-hemian-

opsia of the superior temporal quadrant of the field, the inferior temporal quadrant being the most perceptive position of the whole field for white, though every part of the field has now lost its perception of red and green.

The actual size of the hands can be judged from the accompanying measurements, which I took, and his feet were very similarly enlarged. His feet are terribly squeezed by his boots, but he says he "doesn't easily feel pain," and his feet never bother him when once he has "crushed them into his boots." His teeth were, at the same time, examined by Dr. Arthur Baker, and a cast taken, which I am, through his kindness, enabled to show.

Measurements of Hands, &c.

		RIGHT.		LEFT.
Circumference of wrist -	-	$9\frac{1}{2}$ inches	...	9 inches
Do. palm -	- 12	"	...	12 "
Do. thumb	- 4	"	...	4 "
Do. first finger	- 4	"	...	4 "
Do. second finger	4	"	...	4 "
Do. third finger	$8\frac{1}{2}$	"	...	$8\frac{1}{2}$ "
Do. fourth finger	$8\frac{1}{2}$	"	...	$8\frac{1}{2}$ "

Circumference of neck, 18 inches.

Do. of head from chin over vertex, 29 inches.

Length of right ear, $8\frac{1}{2}$ inches.

Do. left ear, $8\frac{1}{2}$ inches.

Distance between centres of pupils, 76 mm.

On March 17th, 1893, he weighed 17st. $\frac{1}{2}$ lb., and he weighed 17st. 4lbs. on November 29th, 1894; and his brother thinks he is not now as big as he was a year ago. He says himself that, but for his eyes, he is as good a man as ever he was in his life, and is in perfect health and spirits.

The left eye is almost totally blind, and the sight of the right eye has diminished to fingers at 1 metre. He has to be led about, and supports himself on a stick; but his naturally cheerful disposition prevents him from desponding.

December 1st, 1894.—Right V. = fingers at 0.50m. Left V. = doubtful perception of light. The pupils hardly act to light or accommodation. There is slight divergent strabismus, and the eyes are proptosed a little, and the lids very full and flabby. The ears are very large, especially the right one, which measures $3\frac{3}{4}$ inches in length.

He has been taking tabloids of thyroid extract (Burroughs, Wellcome & Co.), two each day, between meals, and, though they

do not seem in any way to disagree with him, his sight is steadily and rapidly deteriorating since he began using the tabloids. On the suggestion of Dr. James Little, I stopped the tabloids and put him on fresh thyroid extract, 25 minims three times a week, prepared and sent weekly to him by Messrs. Brady & Martin, Newcastle-on-Tyne.

A fortnight later, December 15th, 1894, his sight had improved in each eye up to $\frac{6}{18}$??? And on January 22nd, 1895, sight was almost perfect again—in each eye it was $\frac{6}{6}$??? and Jä. 1.

Thus, within seven weeks, the sight of the eye improved from fingers at 0·5m. to $\frac{6}{6}$???, and the sight of the left eye from doubtful perception of light to $\frac{6}{6}$??? and Jä. 1. And this improvement seems to date from the taking of the fresh extract, as he was getting steadily worse all the time that he was taking the tabloids.

There is still a defect in the upper temporal quadrant of the field in each eye. And an attempt was made on more than one occasion to demonstrate Wernicke's hemianopic pupil reaction, but with only uncertain results.

Two months later, March 29th, 1895, I again saw him. He said that he felt "awfully well," but that his left leg had a sort of soreness in the hip muscles below and in front of the joint; that leg, he said, had for years been "a sort of a wooden leg" on him. His appetite was splendid, and the head, he said, was "wonderfully light" and free from the "full sensation" which he felt before.

All through, his grasp had been very weak, especially in the left hand. He considers that his whole left side is weaker than his right.

On November 29th, 1894, he weighed (naked) 17st. 4lbs. On March 29th, 1895, he weighed 16st. 1lb. A loss in four months of 1st. 3lbs.

His sight still remains almost perfect—R. V. = $\frac{6}{6}$ slowly. L. V. = $\frac{6}{6}$??. The discs are much as before—paler than normal, with evidences of past perivasculitis.

Since writing the above I received a letter from the patient's brother, which says—"I have to tell you of the death of my brother, Michael, which occurred on the 25th April. He continued to go on very well under your treatment until he got rheumatic fever, which terminated fatally at the end of a week."

Dr. Crean, of Clonmel, who attended him in his last illness, kindly gave me the following information, he writes—

"I believe that influenza was the cause of Michael H——'s death. For some months before his last illness he had been making rapid progress. He recovered his sight; was no longer drowsy or apathetic, and attended his ordinary business with an unusual amount of energy. His face was not so swollen and expressionless, and the oedema (mucoid) of his extremities was decreasing day by day. In his case the thyroid extract treatment appeared to work wonders. The 18th of April he went to the Tipperary Hunt Races in fair health and good spirits, and was seized, on his return, with a severe rigor, followed by high fever, pains in the limbs, and all the other usual symptoms of influenza. The day before his death he was clear and collected. The fatal termination, in my opinion, was in no measure due to tumour of the pituitary body."

The pathology of acromegaly seems still a matter of some doubt, but in a very large majority of cases the pituitary body has been, on *post mortem* examination, found to be enlarged, and its pressure on the chiasma accounts for the ocular complications. The few cases where the pituitary body has been found apparently healthy may, perhaps, be explained otherwise.

If the enlargement of the pituitary body be a true hypertrophy, as in the case of many enlargements of the thyroid gland, then it would seem irrational to add further to the already excessive pituitary secretion; but if the enlargement be due to some disease of the gland which destroys its function, then it would seem rational to supplement the fluid which was insufficiently supplied to the organism by pituitary extract obtained from other animals. So far, there are few recorded cases where pituitary extract has been used, and, as far as I know, none where its use gave anything like the same amount of benefit that fresh thyroid extract gave to my case.

Into the literature of the subject I need not enter. My desire being to record a case rather than to exhaust the subject.

The principal points of interest in the case seem to me to be—

(1.) The early appearance of a *central scotoma* for colours, and probably also hemianopia for colour.

(2.) The almost complete *recovery of vision* which followed the use of iodide of potassium and the cessation of tobacco.

(3.) The *return of visual troubles* (after more than two years) when the use of tobacco was resumed.

(4.) The rapid *deterioration of vision*, which occurred when the thyroid tabloids were first used.

(5.) The rapid and continued *improvement* which followed the use of the fresh thyroid extract.

(6.) And the many and peculiar changes which have occurred in the visual field.

ACROMEGALY.

Chart of Vision of MICHAEL H.—.

Date	Right Vision	Left Vision
1892 June 8th	- $\frac{1}{10}$ (central), $\frac{1}{10}$ (peripheral)	$\frac{1}{10}$ (central), $\frac{1}{10}$ (peripheral)
" 29th	- $\frac{1}{10}$	$\frac{1}{10}$
1894 Nov. 17th	- $\frac{1}{10}$	$\frac{1}{10}$
" 21st	- $\frac{1}{10}$	Perception of light (imperfectly)
" 26th	- $\frac{1}{10}$	" " (badly)
" 30th	- Fingers at 1 metre	" " (badly)
Dec. 1st	- Fingers at 0.50 m.	" " (doubtful)
" 15th	- $\frac{1}{10}$??	$\frac{1}{10}$??
1895 Jan. 22nd	- $\frac{1}{10}$??? J. 1	$\frac{1}{10}$??? J. 1
March 29th	- $\frac{1}{10}$ slowly	$\frac{1}{10}$???

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

RECENT WORKS ON ANATOMY.

1. *An Elementary Text Book of Anatomy.* By HENRY EDWARD CLARK, M.R.C.S., &c. Pp. 283. London: Blackie & Sons, Limited, 1895.
2. *Text-Book of Anatomy and Physiology for Nurses.* Compiled by DIANNA CLIFFORD KIMBER, Graduate of Bellevue Training School, Assistant Superintendent, New York City Training School. New York and London: Macmillan & Co. Pp. 268. 1895.
1. We find it difficult to seriously criticise this book in a medical paper, written for medical men. It will probably be more useful if we give the plan of the work, and a few extracts to show how that plan is carried out.

The book was written, we learn from the preface, for junior students, for nurses, and for those—amateurs we may call them—who desire to know how their bodies are constructed. To the junior student we do not recommend the work. He had much better take his Cunningham or Ellis with his Quain or Gray and boldly attack his subject at once. There will be no substantial gain from a few months devoted to a book of the catalogue variety as compared with that obtained from the study of a regular text book. The necessary brevity of a small book excludes explanations and full descriptions, if the whole of the subject be included, as in the book before us.

For the nurse, at least for the ordinary nurse, too much is attempted. Practically, everything in the body is included in the brief descriptions. What, we would ask, does the ordinary nurse want to know of the ligamentum denticulatum of the cord, of the layers of the retina, of the laxator tympani,

of the saccule and utricle, or the membrane of Reissner and canalis reuniens of the internal ear?

As to the amateur; well, we think, he is quite as well off without the information which is here provided for him.

The plan of the work is as follows:—The histology of the cell, of protoplasm, and of the tissues, membranes and glands opens the book. Then comes osteology, followed by arthrology, myology, angiology, neurology and splanchnology. An index and an excellent glossary complete the letterpress. The glossary is, in our opinion, one of the most useful parts of the book; it gives a very large number of words with their derivation and their meaning; the pronunciation is unfortunately neglected. The illustrations are numerous, nearly two hundred, and as a rule good.

A few extracts will show the character of the work more clearly. For instance, the sphenoid is described as follows: “This is a very irregular bone placed in the front part of the base of the skull; it assists in forming the cavities for the eyes and nose, the base of the skull and temple; and has numerous nerves and vessels passing through small openings scattered throughout it. Its central part contains two cavities, the sphenoidal cells which are in communication with the cavities of the nose.” “Transitional epithelium,” we are told, “is the early form of the several varieties of epithelium; it generally consists of small, granular, round cells”—the italics are ours. The following are selected at random: “The coronal suture crosses the front part of the head, and unites the frontal bone with the anterior margin of the two parietal bones.” “The soleus does not extend above the knee joint; it arises from the back of the tibia and head of the fibula, and terminates in the tendo Achillis. That tendon is the thickest and strongest in the body, being capable of supporting considerably more than the total weight of the person. It is inserted into the prominent projecting tuberosity of the heel bone (*os calcis*).” “The lingual artery (as its name indicates) supplies the muscles which move the tongue, the substance of that organ itself, and in part the salivary glands.” “The superior laryngeal nerve is almost entirely sensory, it enters the larynx between the hyoid bone and thyroid cartilage, and is distributed to the mucous mem-

brane lining the interior. The exquisite sensitiveness of the voice-box is due to this nerve." "The stomach is cone-shaped, with its great end directed upwards and to the *right*, and its lesser end downwards and to the *left*. It is divided into a middle part or body, a greater or splenic end, and a lesser or pyloric end."

In looking through the book we have seen several inaccuracies—*e.g.*, on page 237 we read: "The lower border (of the liver) corresponds, pretty accurately, with the cartilages of the 6th, 7th, 8th and 9th ribs, on the right side. The left lobe extends to about an inch to the left of the middle line, &c." "The spleen corresponds to the 9th, 10th and 11th ribs in the axillary line." The upper part of the bladder is called the fundus. "Behind the restiform tract (in the medulla) is a very narrow band, the posterior pyramid continuous with the posterior median column of the cord, &c."

Taking everything into consideration, we cannot say that we are favourably impressed by the work.

2. THIS is a text-book written—or, as the authoress puts it on the title page—"compiled"—by a nurse for nurses, her intention being to supply the information both as regards anatomy and physiology, required by scientifically trained nurses, within the compass of one volume; and to supply it in such a form that the average nurse could understand it and make it her own. All this, in our opinion, the authoress has succeeded in doing well and thoroughly. We have looked carefully through the book and we have found it, in every place accurate, well told, clear, and interesting. From it we can see at once that the compiler took the greatest care, first to master her subject thoroughly, and then to tell it in a way suitable to those for whom it was written.

It is a pleasure, indeed a rare pleasure, to meet a book which fulfils its mission completely and perfectly. We think the volume before us has done this, and we can congratulate the authoress on her excellent work.

The arrangement is good. The anatomy and physiology are not treated in separate sections of the book, but are judiciously and carefully interwoven, an account of the physiology following the anatomical description of each part

or organ. The book is thus made much more interesting to the class of readers for whom it is intended.

The plan of the book is as follows:—It commences with the histology and physiology of the cell and of the tissues of the body. This is followed by the bones, the muscles, the vascular system and circulation, the respiratory system and respiration; alimentation, including an account of glands, of the organs of digestion, the digestive processes and foods; elimination and the kidneys, nervous tissues, the organs of sense, and the female generative organs. The generative system of the male is omitted. A good glossary and an index occupy the remainder of the book.

The illustrations—many of which are taken from Quain—are for the most part large, clear and accurate. One, however, figure 130, p. 224, should have been omitted; the cochlea is entirely wrong and misleading—its base is directed out instead of inwards.

The printing is all that could be desired, and the general appearance of the book is very good.

We think it unnecessary to criticise the work any further; it meets with our entire approval, and we can warmly recommend it to nurses who wish to obtain a thorough and, withal, a simple description of the anatomy and physiology of the body. It will also be found very useful by those engaged in the practice of massage.

The Eye-in its Relation to Health. By CHALMER PRENTICE, M.D., Chicago. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited, Hirschfeld Bros. 1895. 8vo. Pp. 214.

IN reviewing this curious production the critic is placed at a singular disadvantage.

In the publisher's note at the commencement we find it stated, that "some startling and original opinions are advanced by its American author." "The book, will doubtless, excite adverse criticism from certain readers, and possibly some portions of it may even provoke a smile."

The author in his opening chapter says:—

“Many ideas are set forth that are entirely new. Many tests are suggested that may seem strange, and results recorded that appear incredible” (with this we entirely agree!), “but the value of these tests cannot be determined without thorough investigation. Some months, or even a year and more, ought to be spent in the experiments suggested in this work.”

“After investigation,” he says, “I invite criticism.”

Again he says:—

“However extensive the experience of any oculist may have been, I do not expect from him full concurrence in my opinions as a result of that experience; and any judgment from that plane I shall deem in a great measure unfair.”

Again:

“A subject like the present, pointing towards advancement in the field of medicine, is too sacred to be trifled with by casual and inexperienced criticism.”

After a preface such as this, if we were minded to comply with the author’s wishes, we should not attempt any review of the opinions of the book, but simply confine ourselves to a notice of its publication and its contents.

But the book is too interesting to remain unnoticed for “a year or more” while practising the author’s “experiments,” and it is hardly possible to notice it without making some comments, favourable and unfavourable, upon its statements.

It is obviously the work of a clever, painstaking enthusiast. Having become aware of the pathological importance of eye strain in its various manifestations he has, through a colossal faith in himself and his discoveries, succeeded in producing wonderful effects, partly physical, partly mental, upon those patients who submitted to his “experiments” in a spirit of faith as large as his own.

Dr. Prentice is singularly careless in his use of words and terms; in the same sentence he uses “hyperopia” and “hypermetropia.” He tests refraction with lenses graduated in accordance with the metric system, but tests acuity of vision not in metres but in feet.

He states that “the average acuity of vision is said to be an angle of one minute.” No explanation of this statement is offered.

On the next page he says—

“When the two eyes are fixed so that rays of light falling from a given point are reflected on corresponding localities in the field of vision, a single impression of the object ensues, because each of these corresponding points is supplied with a nerve-filament that leads to a common or single sensory centre.”

Surely this is too loosely expressed, for, beyond doubt, the *field of vision* is not supplied with nerve filaments!

The main contention in this work is, that a very large number of individuals with apparently normal vision and without visible strabismus are really the subjects of errors of refraction or of inequalities in length and strength of one or other of the extra-ocular muscles. That this condition requires an excessive motor impulse to be supplied to certain muscles, and that, in consequence, there results fatigue and irritation of the central nervous system capable of producing symptoms and definite pathological conditions in various peripheral portions of the body.

This condition is to be combated by “repression,” which he defines as “the abatement of an excessive nerve impulse accomplished by reversing a strain.” This he does, for the most part, by means of spherical lenses and prisms—sometimes by tenotomy. He starts with some pathological statements which he regards as axioms. For example: “Disease is localised abnormal innervation, *and always central in the nervous system*, being a lack or excess of motive force.” “Any disease of the eye, other than zymotic or traumatic, and a continuance of even these may depend on eye-strain.”

In his opinion, “so-called cures for dipsomania perform whatever good they effect by temporarily relieving eye-strain.” Again he says: “I am thoroughly convinced that a large percentage of consumption takes its origin from irritation arising through the visual centres, and that many cases, especially in the earlier stages, are amenable to treatment through the same medium.”

Speaking of myopia, he says:—

“In my opinion this defect takes its origin nearly, if not always, as hypermetropia, but the nerve impulse that increases the convexity of the lens to correct the hypermetropia exceeds that office; it passes the point where the refraction would produce clear and

distinct vision, and nearsightedness is the result. It becomes an excessive impulse, fixed or progressive, arising from deranged nerve-centres."

Again:

"Corneal astigmatism is almost always due to the fact that some of the muscles of the eyeball are exerting greater tension in one meridian than another. Wherever corneal astigmatism exists it is fairly safe to conclude that it is due to some muscular strain."

No patent medicine ever claimed to have slaughtered a more extensive and diverse army of diseases than that which Dr. Prentice of Chicago defeated with his panacea, "Repression." On pages 126 to 128 he says:—

"The following tabulated list of clinics has been selected from a large number of cases for the express purpose of showing what class of cases have yielded and may possibly yield to repression treatment."

Then follows the list of those cured by ocular treatment. It contains cases of—

"Ovaritis, with general female weakness; Prostatitis, with inflammation of the neck of the bladder; Insanity, Hay fever, Uric Acid Diathesis, Rheumatism, and General Nervous Debility; Chronic Rheumatism, Asthma, Ovaritis, Diabetes Mellitus, Paralysis Hemiplegia of twelve years' standing cured in one year; Motor Ataxy, Consumption with Nervous Debility which had lasted fifteen years was cured in eight months; Functional Heart Disease, Diabetes Insipidus, Bright's Disease, Anæmia, Insane and Paralysed, Cirrhosis of the Liver of twelve months' standing cured in four months; Melancholia and Sterility, Chorea, Shaking Palsy, Ovaritis and Sterility, Chronic Ulcerative Catarrh, Constipation and Dyspepsia, Sciatica and Uric Acid Diathesis, &c."

"Sometimes" (he says) "we may be fortunate enough to have such marked changes ensue from repression that there will be little uncertainty. I have seen it reduce the heart's action within one hour from 120 to 65, where on the removal of the glasses the heart in a short time would increase to its former standard, and again, with the glasses, be reduced. I have repeatedly seen persistent pains in the back, the ovaries, the stomach, and various other parts relieved within an hour or two, and reproduced by the removal of the glasses or the reversal of the prisms. I have seen the reverse position produce a nervous chill. There certainly is as much mental suggestion in one position of the prism as the other."

The author is certainly convinced that his position is firmly established upon an unassailable, scientific basis, and is not to be mistaken for hypnotism or faith-healing, for he calls it a "philosophy" and expresses a healthy self-satisfaction in the concluding sentence of the book, where he says—

"When the philosophy set forth in this work is more generally understood, it is certain to be generally practised, and its benefits will be shared by many sufferers. For his years of labour, the author deems himself well rewarded by the results already obtained, although he looks upon these results only as the earnest of greater things to come."

Dr. Prentice considers that want of balance between the external muscles of the eye is extremely common—almost invariable, indeed—and he bases this opinion largely upon the evidence of the blind and the dead. He assumes (without any proof whatever), that the position of equilibrium of normal ocular muscles results in parallelism of the "optic axes" (a term he does not define). As all blind people within his observation have had their optic axes deviated in some direction, he concludes that they all had suffered from defective muscular equilibrium. Again, the aimless movements of the new-born infant's eyes, he explains by want of balance in the muscles.

It would seem to us to be better explained by an imperfect development of the co-ordinating centres; for, is it not exactly analogous to the aimless and futile movements of arms and legs, incapable of full co-ordination till the centres are educated? The fact that all infants are born hypermetropic but subsequently many become emmetropic, he explains by saying: "It is the long-continued effort of the ciliary muscle that brings about the emmetropia of later life." But, surely, growth and full development have more to do with this change of shape than spasm of the ciliary muscle. The hypermetropic eye is essentially an imperfectly developed eye.

"Look into the dim windows of the brain," he says, "twenty-four hours after death, and a deviation of the eyes from a perfect position will always be found." The eyes, he says, "naturally fall into the positions the relative lengths (of the muscles) permit them to assume." If the optic axes are not, after death, parallel, he considers that the presence

of defective muscles is proved. But is it fair to lay this down as true of the eyes and not of the limbs? Is an absence of symmetry in the position of the limbs at the time of death a proof of defective muscular development? Even Dr. Prentice could hardly believe this.

Like many other serious writers, Dr. Prentice is, at times, very amusing. With melodramatic effects he tells the following truly fantastic and characteristic story:—

“Several years ago, I was called from a great distance to see a patient, suffering from what was, at times, a severe craving for alcoholic stimulus. During this period, excessive amounts of liquor were drunk, the debauch continuing about one month. His dissipation was as deep as possible. After this followed the period of sobering. Then for three or four months he would again lead a perfectly abstemious life. He was notably kind and generous to the poor; lent great aid to moral institutions; was a kind, good father and husband, and seriously devoted to the church. It was at the conclusion of one of his sprees that I reached his home, too late to see him alive. On the following day, the thought came to me that if eye-strain had had any connection with his infirmity, it, perhaps, might manifest itself after death. So, in the company of his old partner and friend, and two undertakers, I carefully raised his eyelids. The left was fixed in a normal position, the right was turned upwards, fully 22 degrees. Such evidence ought to be sufficient explanation and vindication of many acts that may have incurred censure during life.”

In spite of its obvious faults and inaccuracies this book is well worth reading, and reading carefully, for it is suggestive and invigorating. The absolute cock-sure-ness of the author is most refreshing in these days of hypercritical accuracy, and many grains of pure gold may be obtained from it by washing.

Method of Operating for Cataract and Secondary Impairments of Vision, with the Results of Five Hundred Cases. By SURGEON-CAPTAIN G. H. FINK, H.M. Indian Medical Service. London: J. & A. Churchill. 1894. Crown 8vo. Pp. 77.

THE author has operated upon 1,000 eyes for cataract, but bases his present treatise on 500, which he has tabulated.

He begins with a short historical sketch, then enumerates the instruments required, and the stock solutions, dressings, and other necessaries; then devotes a paragraph to "The Patient and the Operator;" then describes minutely each step in the operation, and finally, the dressing and after-treatment.

He operates, as a routine, with the pupil dilated with atropin. He is eclectic regarding the vexed question of iridectomy, and prefers, if he can, to extract the lens in its capsule without pricking it with a cystotome. Before extraction he syringes out the surface of the eye and the anterior chamber with perchloride of mercury—1 in 10,000—and then everts the upper lid "to widen the palpebral fissure." When the operation is completed, a piece of plaster cut in a special shape, with a drainage slit provided for each canthus, is placed directly over the closed eyelids, and no further dressing applied to the eye till the fourth day, when the plaster splint is removed by moistening it, and a light pad applied in its place. "The plaster is made of blue silk, dipped in a hot solution of (1 in 5,000) bichloride of mercury, and then in a (1 in 5,000) warm solution of gum and bichloride of mercury, which is carefully strained and freed from grit. It is then stretched over a clean board and dried and cut into the proper shape."

Amongst the accidents that may happen during an operation, he mentions prolapse of the iris in front of the blade of the knife. When this occurs he makes an incision in the corneo-scleral line with a keratome, the iris is then drawn away from the knife by a hook, and the corneal incision is completed.

He always tests vision immediately after operation. When it is found defective the hyaloid membrane is at once divided with a cystotome, to avoid the necessity of a secondary operation. This plan he has found so satisfactory that he has never had to perform a secondary operation in any single instance.

The results that he obtained are—successes, 90.6 per cent.; accidents and complications, 6.6 per cent.; and suppurations, 2.8 per cent. He does not, however, specify the vision obtained, or give any definition of the word "successes,"

therefore it is hard to compare his results accurately with those of other operators; but in his hands his method seems to have given most satisfactory results.

General Surgery and Pathology for Dentists. By EDMUND W. ROUGHTON, B.S., M.D. (Lon.), F.R.C.S. Eng., &c. London: J. P. Segg & Co. 1895. 8vo. Pp. 134.

THE object of this book is stated by the author to be, the supplying to a student in dentistry an account of general surgery and pathology sufficiently comprehensive to aid him in his special branch, and at the same time sufficiently concise to enable him to readily take in these subjects while preparing for his examination. There is, we should think, one danger to which a book of this class is especially liable—that is, the tempting a student to take a shallower and more superficial insight into the field of general surgery than perhaps he might have taken were these abridged works unknown.

The dentist of the present day would need to consult more exhaustive works than that under observation, for, although that which the author says is well said, it seems to us that a dental student, supposing him to have but little previous knowledge of surgery, would fail to get a fundamental general idea of his subject from this treatise alone.

The book is divided into sixteen chapters. The first, which treats of inflammation and its sequelæ, gives a clear description of the subject, and its value is enhanced by several diagrams. In many places the author gives definitions—witness here that of “a sinus”—which are very brief, and yet comprehensive. Next follows a description of bacteria, and here it would seem that the author considers dental caries due entirely to the action of these micro-organisms, laying no stress upon the part played primarily by acids. However, further on we see weight is laid upon this point. Speaking of bodily temperature, the different scales used—on p. 22 C., p. 30 F., and elsewhere neither specified—would, we think, prove confusing to those for whom the author caters. Here is pointed out the probable similarity of Fränkel's pneumococcus and the micrococcus of sputum septicæmia, with the possible ætiological relation of mouth organisms to acute croupous pneu-

monia. The subject "Wounds" next receives attention, after which certain surgical febrile conditions are briefly touched upon.

In some seven pages the author tells a great deal about syphilis. Tuberculosis is discussed somewhat briefly, yet the reader cannot fail to carry away from this chapter a good deal of information in a condensed form. The different varieties of tumour receive a relatively large amount of consideration, and from the dentist's point of view, rightly so; several good illustrations of the various microscopic appearances add to this chapter's interest. Under the heading "Nerve Injuries and Diseases," where, perhaps, the dentist would look for much enlightenment, there is but a short description. The nature of the pain in neuralgia, its various treatments, and especially the warning as to the use of analgesics, cannot but be read with advantage. The chief affections to which bone and its membranes are liable exhaust the remaining twenty pages.

The book is tastefully and well got up, while the type is clear and of good readable size.

The Urine in Health and Disease, together with its Chemical Examination. By H. AUBREY HUSBAND, M.B., C.M., B. Sc., F.R.C.S.E., M.R.C.S., L.S.A.; President of the College of Physicians and Surgeons of Manitoba; one of the District Examiners to the New York Equitable and New York Mutual Insurance Societies, &c., &c.; author of "The Students' Hand-book of the Practice of Medicine," "Manual of Forensic Medicine and Public Health," &c., &c. Plates. Third Edition. Edinburgh: E. & S. Livingstone. 1895.

THIS Lilliputian volume has succeeded in attracting so much public attention that it requires but brief notice at our hands. The author informs us, in his preface, that—"The increased demand for this little book has necessitated the preparation of a New Edition within two years. The book has been carefully revised, and much new matter added. The question of Albuminuria in relation to Life Insurance has been made as full as the limits of the book

would permit. Several diagrams of apparatus have been inserted in the text. Of these there are so many modifications that the student is referred to the catalogues of the firms mentioned."

There are ninety-five pages of text in this booklet. Twenty-four woodcut diagrams of urinary deposits—organic and inorganic—follow. The author and publishers have shown their judgment in giving the reader the benefit of a good, large, clear type; the style and diction of the author are extremely concise and lucid; so that the little volume is a genuine *multum in parvo*: it contains a vast deal of concentrated and accurate information. We feel sure that this issue will continue to maintain the popularity of its predecessors. It most certainly deserves to do so; for it is by far the most convenient and reliable pocket-book of reference which we know of on so important a subject. We recommend it most warmly to the attention of the medical student and of the general practitioner.

Elements of Practical Medicine. By ALFRED H. CARTER, M.D., Lond.; Fellow of the Royal College of Physicians, London; Senior Physician to the Queen's Hospital, Birmingham; Visiting Physician, Workhouse Infirmary, Birmingham; Professor of Therapeutics, Mason College, Birmingham; Emeritus Professor of Physiology, Queen's College, Birmingham; Consulting Physician to the Corbett Hospital, Stourbridge; the Bromsgrove Hospital, and the Smallwood Hospital, Redditch, &c. Seventh edition. London: H. K. Lewis. 1895.

THE fact that six large editions of Dr. Carter's manual have been exhausted within fifteen years, is quite sufficient evidence to establish the fact that it has been found one of the most useful of the numerous manuals offered to the attention of the student, as introductory to the study of the practice of medicine. Of the present issue the author says in his preface—"Though the work has necessarily undergone wholesale revision, and substantial re-arrangement, as the advance of knowledge and my further experience

as a teacher of medicine have seemed to suggest, its aim is still the same. Now, as then, the object has been to provide broad truthful sketches of the various types of disease, as distinguished from a mere epitome or compendium of exhaustive treatises. To what extent this ideal has been realised in the present instance, I must leave my readers to judge; but that there is a genuine and legitimate demand for a work of this kind I think every teacher of experience will admit."

There is no doubt whatever—as it appears to us—that the question has been already answered, in the most satisfactory way, by the amount of public patronage which Dr. Carter's manual has long ago succeeded in securing. In the case of the present issue he has left nothing undone to deserve a continuance of the same popularity. He describes, clearly and concisely, the leading characteristics of the principal types of disease; the forms of treatment are indicated with the best judgment. A special feature of the manual is a "therapeutic index" of the outline treatments of the principal diseases. It occupies thirty-one pages, and will be found extremely useful to the student and general practitioner. Following this, is a very good general index—an important feature in every book of reference. We cordially recommend Dr. Carter's handy manual as one of the most useful and reliable of its species.

SEPTENTRIONALIN.

SEPTENTRIONALIN is an alkaloid of aconitum septentrional, discovered by Kobert. In its physiological effects it closely resembles curare, and is recommended as an antidote for strychnin and for hydrophobia.—*Rundschau für Ph.*, No. 20.

THE BOROSALICYLATE OF SODIUM.

THE borosalicylate of sodium— $2C_6H_4 OHCOOH + Na_2Bo_4 O_7 + 5H_2O$ —is produced by mixing two molecules of the salicylate of sodium with four molecules of boric acid. As an external application Dr. Bernegan gives the following prescription: R.—Borosalicylate of sodium, 20 grammes; glycerole of aonica, 40 grammes; lanoline, 18 grammes; vaseline, 22 grammes.—ft. ungt. The salt is soluble in water.—*Les Nouveaux Remèdes*, 1895, No. 5.

PART III. SPECIAL REPORTS.

REPORT ON GYNÆCOLOGY.

By E. HASTINGS TWEEDY, Fellow and Examiner, Royal College of Physicians, Ireland; late Assistant Master, Rotunda Lying-in Hospital.

THOSE interested in the progress of gynaecology would do well to peruse the June number of the *American Gynaecological and Obstetrical Journal*. This number contains, in a very full form, the Transactions of the American Gynaecological Society, and furnishes an excellent commentary on the progress which has occurred in this special branch of surgical science. As might be expected, the need for operative interference in fibroid tumours of the uterus, and the various methods that are employed in their removal, receives the most prominent consideration.

Dr. Howard Kelly voiced the opinion of most modern authorities when he laid down the following indications for operations:—persistent haemorrhage; constant pain that cannot be relieved; a rapidly-growing tumour; a tumour sufficiently large to cause inconvenience; an operation is justifiable performed on a patient who is nervous and frightened at her condition. Many other indications could easily be mentioned—as, for instance, malignant degeneracy of the growth, and the interference with labour, sometimes brought about by myomata.

Nothing is more remarkable than the change which has occurred concerning the treatment of these fibroids. We no longer are told that they are harmless; on the contrary, the more our experience grows the more are we inclined to look on them as constituting a very grave condition.

Nothing now is heard of the treatment by ergot or electricity; both one and the other, having proved dangerous and non-efficient, have been discarded. Neither has the operation of oophorectomy—or removal of tubes and ovaries—sustained its reputation, but has gradually yielded the fore-

most position to hysterectomy as a means of cure. This latter operation, having undergone probably as many modifications as there are months since its introduction, shows signs at last of crystallising into the method of "total extirpation," whether this be accomplished through the vagina or by means of the abdominal operation.

As regards the relative merits of these two methods, it is unnecessary to say anything. Each has its sphere of usefulness, and they should not be considered antagonistic. There is no question that a wonderful feat of surgery is accomplished when a myomatous uterus, enlarged so as to reach up to the umbilicus, is removed through the vagina. The method of procedure is as follows:—The uterus and tumour are split by a median incision—beginning at the anterior lip of the cervix—into two halves; this division is facilitated by cutting wedged-shaped masses from either side as the operation proceeds. Hæmorrhage is easily controlled by an assistant making steady traction on either lateral mass by means of strong vulsellæ during the progress of the operation. Finally, the masses are dragged through the vagina, and the broad ligaments are either clamped or ligatured *in situ*. The vault of the vagina may now be closed by a few ligatures, or a plug of iodoform gauze, but neither one nor the other is necessary, as the parts themselves close very rapidly, and there is no inclination to intestinal prolapse. That this operation is very safe cannot be doubted. It is accompanied by a less degree of shock than any abdominal operation. No weak abdominal spot is left behind, and the convalescence is amazingly rapid. Against these advantages must be urged, that it is tedious to the operator, and requires a prolonged anaesthesia. We feel sure, however, that the operation will be more and more practised, to the exclusion of other methods, as its merits are more widely understood.

Martin's total extirpation has almost entirely superseded other methods of dealing with large fibroids—those extending above the umbilicus—and we do not exaggerate when we say that this plan affords a means for the removal of these growths, which is attended with no greater mortality than that experienced a few years ago by the most eminent ovariotomists in their now classical operation.

It is gratifying to feel that the Dublin school has kept so well abreast of the times; both these operations have been performed with great frequency within the past two years at the Rotunda Hospital by the present Master, Dr. W. J. Smyly, to whom is due the honour of being the pioneer of both operations, not alone in Ireland, but also in the United Kingdom.

We cannot pass from this subject without calling attention to Dr. Thomas Addis Emmet's valuable paper, which sounds a useful warning against the indiscriminate removal of the uterus because of myomata. He writes:—"Let no one remove the uterus until he has dilated the canal, put his finger in and formed some idea of the position of the tumour." This rule cannot be too urgently insisted on, for many submucous myomas can thus be felt, and removed from their beds without in any way impairing the usefulness of the organs left behind. To accomplish this purpose Dr. Emmet uses strong tenacula and scissors, but those who have employed Schultze's spoon forceps—or, rather, Dr. Smyly's modification of that instrument—will find that they possess a much safer and more ready method of accomplishing the enucleation.

Much work has been done of late in the direction of fixing the displaced uterus in a proper position otherwise than by pessaries, and there is no doubt that the complete disappearance of these instruments (save under the most exceptional circumstances) is but a matter of time.

Of the innumerable operations which have appeared from time to time as a means of compassing this happy state of affairs, none have held their own more completely than that devised and practised by Dr. Alexander of Liverpool. We know of no operation that has been more assailed than this one—"barbarous," "unscientific," "dangerous," "useless," are samples of the expressions used concerning it—and the fact that it is growing year by year in favour, despite so much opposition, speaks highly for its intrinsic value. We find three papers (*Amer. Gyn. and Obst. Journ.*, June, 1895) devoted to Alexander's operation, and men as eminent as Dr. Paul Mundé and Clement Cleveland speak in the highest terms of it—the former, after an experience of 77 cases; the latter, after 83 cases. The discussion which followed the reading of these papers was also, on the whole, highly favour-

able to it. Cleveland, in operating, makes an incision from $\frac{1}{2}$ to 1 inch long, parallel to Poupart's ligament, "from the pubic spine, in the direction of the inguinal canal, through integument and fat down to the fascia of the external oblique. It is rare that an incision longer than an inch is found necessary, even in the fattest subjects. With the tip of the index finger, a point of less resistance, just above the pubic spine is then sought for, and, in most instances, readily found. This is the so-called "intercolumnar cellular membrane," covering the external ring. By separating the incision, by the thumb and index finger, and pressing firmly on either side of the ring upon the pillars, the cellular membrane will be seen to pouch, and, upon cutting through, the proverbial bunch of fat will protrude. This bunch of fat contains the ligament itself, or fibres of it.

By grasping it by forceps and by gentle traction the ligament can readily be isolated, and should be separated from the nerve that accompanies it. It can then, by persistent coaxing, be drawn out of the canal to what is considered the proper length, which in most cases is about four inches. The other side is then operated on in a similar manner.

For a further description of the technique of the operation, as modified by Cleveland, we must refer our readers to the original article. Polk has extended the sphere of the usefulness of this operation, by making it applicable to fixed, backward displacements. In those cases where firm adhesions do not yield to Schultze's method for breaking them down, Polk opens into the posterior fornix, and directly tears through the adhesions, then, having freed the uterus, he completes the cure by Alexander's operation.

In dealing with the treatment for complete prolapse occurring in old women, Mundè considers Fryne's operation an ideal one. The present writer had an opportunity of performing this operation two years ago. He encircled the vagina with buried rings of silk-worm gut, placed at intervals of $\frac{1}{4}$ of an inch from each other, commencing in the neighbourhood of the cervix, and ending close to the vulvar orifice. The little operation was followed by immediate and complete relief, but he, unfortunately having lost sight of the case, cannot speak as to its subsequent result.

"Renal insufficiency in gynaecological cases" is the title of a paper contributed by Dr. J. H. Ethridge. The author deals only with those cases where the kidneys, though normal in structure, yet perform insufficient work. A method, said to be efficient, is given for estimating, in any given case, the amount of solids voided in the urine. "Multiply the last two figures of the specific gravity of the urine by the number of ounces voided in 24 hours and the product by $1\frac{1}{10}$."

The average amount of solids voided in 24 hours is 950 grains, but Dr. Ethridge has found that "women passing only 50 per cent. of the normal amount of urinary solids are very numerous." "Patients suffering from renal insufficiency should be regarded as poisoned patients, and treated accordingly." "They present symptoms varying in intensity according to dosage." "Women passing not to exceed four hundred grains of solids daily, present various degrees of nervous irritability. When the amount is lessened to, say, 300 grains or less daily, the condition of nervousness becomes a very serious semiological factor. Let a patient, passing only the latter amount of urinary solids, take a severe cold and she will develop a bronchitis or a severe neuralgia, or a fresh attack of perimetritis or a pleurisy, or some other malady equally grave. If appropriate diuretics be used in such cases it will be found that the excretion of urinary solids will be increased, thus indicating that they are called in from the tissues that do not contain them normally, and at the same time the urgent symptoms subside."

Dr. Thomas S. Cullen (*Johns Hopkins Hospital Reports*, Vol. IV., No. 7-8) discusses the causes giving rise to four deaths out of five abdominal sections performed between the 18th and 25th days of January, 1893, in the Johns Hopkins Hospital. He writes: "From the fact that the *Staphylococcus pyogenes aureus* (which was the predominating organism) occurred in every case, and, since all the fatal cases took place at one time, the conclusion seems unavoidable that the source of infection was the same in each instance. The technique of the operating room was the same as formerly, save in one particular. The catgut, which had hitherto been placed in 95 per cent. alcohol and sterilised by steam, was very friable, and it was suggested that juniper-oil catgut be

employed. The gut was put into a screw-top glass jar, containing equal parts of juniper-oil and alcohol (95 per cent.), and placed in a steam steriliser for half an hour, on each of three consecutive days. This gut was employed in all the septic cases."

These cases forcibly illustrate the fact that we have not as yet discovered a ligature that can lay any claim to perfection; and a strong, absorbable, and aseptic material to use as such, is still an urgent surgical need.

It is, therefore, with interest we have read the article contributed by Dr. M'Larne (*Trans. Amer. Gyn. Soc.*, 1895), in praise of Dr. Boeckman's method for the sterilisation of catgut. He says: "With many others, I had entirely given up the use of catgut for silk until 18 months ago, when Dr. Edward Boeckman, of St. Paul, presented to the St. Paul Medical Society, his combination steam and dry steriliser, and described his method for the dry sterilisation of catgut; showing at the same time a long series of bouillon and agar-agar cultures of catgut, both before and after sterilisation. By Dr. Boeckman's method, the catgut is cut into desirable lengths, wrapped in waxed paper, then sealed in small envelopes, raised in the steriliser to a temperature a little above 284° F., and kept at that temperature for four hours. All ordinary pus germs are killed at a lower degree of temperature, but the spore bearing germs, particularly anthrax, so common in the intestine of the sheep, from which catgut is manufactured, are killed only by this high and protracted degree of heat. That catgut prepared in this way is sterile, has been proved by innumerable culture tests, as well as by the personal experience of all my friends who have used it."

This is certainly a less expensive method of treating catgut than that of boiling it in cumol, but which of the two will hereafter be found the more efficient in producing sterilisation with a minimum amount of damage to the gut, the present writer is unable to say.

For our part we have always noticed considerable damage accruing to the gut, consequent on the application of dry heat, but then we have not as yet tried the modified plan of placing it in waxed paper, and we look forward to obtain by this method better results than we have had up to the present.

PART IV. MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

INTRODUCTORY ADDRESSES, 1895-96.

MEATH HOSPITAL.

Introductory Address delivered at the opening of the One Hundred and Forty-third Session of the Meath Hospital.
By E. E. LENNON, F.R.C.P.I., L.R.C.S.I.; Physician to the Meath Hospital.

GENTLEMEN,—We are met here to inaugurate the opening of the one hundred and forty-third Session of this Hospital, and in accordance with a time-honoured custom, an address is given by a member of the staff. Following as I do in the wake of so many distinguished inaugural lecturers, it is but natural I should feel deeply sensible of the great honour to which I have been called, and my incompetence to do justice to the position.

As in this address there must be an absence of that “polish” which graced the work of my distinguished predecessors, I can only claim the privilege of a first attempt, and throw myself upon the indulgence of the audience.

Since the previous Session we have to deplore the death of Sir George Porter, one of the most distinguished teachers of surgery which our time has produced. Abler pens than mine have enumerated the honours which were bestowed upon that illustrious surgeon, and to which he was so justly entitled. I shall merely state, therefore, that, like many other celebrated physicians and surgeons of our hospital who have passed away, his memory will be revered, not only for his professional attainments, but also for his kindly and genial disposition.

To fill the position rendered vacant in the hospital by the death of this distinguished baronet was no easy task. In the selection of Mr. Glasgow Patteson the medical staff have, judging by his previous brilliant career, been mindful of the

best interests of the students and the traditions of our hospital. I am confident, therefore, that I express the unanimous wish of the staff and of the students, in tendering to Mr. Patteson their hearty congratulations.

In the continuation of my remarks, I propose this morning to address my observations chiefly to those who are just entering upon their studies, and to those about to qualify.

To those students who are now entering upon their professional education I give a hearty welcome, both to our profession and to this hospital. There is no doubt that in your election to become members of the medical profession you have selected a vocation that is admittedly the most useful and the most honourable you could select. Its benefits and its disadvantages as a life long pursuit you have doubtless duly weighed.

Having, therefore, made your selection, I hope by making this address as practical as possible to give you the assistance which is your due. I shall commence, therefore, by asking you the pertinent question—by what portal do you propose entering the “Medical Register?”

Is it by means of University Degrees or the qualifications of the Colleges?

Here I desire you to note that amongst the learned professions ours is the only one which possesses ambiguity of title. A man when he is called to the Bar is without demur termed a Barrister; a Solicitor is called so the moment he is enrolled; a clergyman is addressed as the “Reverend” upon his ordination. It is reserved for the Medical Profession to be without any suitable title to which all its Members may generically lay claim.

Many of you will say if these learned professions call their members Barristers, Solicitors, and so forth, surely the Members of the Medical Profession may call themselves Doctors. I do not wish, gentlemen, to stagger you with paradoxes, but it is my duty to say that unless you ultimately possess an M.D., you cannot by right designate yourself a Doctor!

This doubtless comes to many of you as a rude shock. To many who have occupied those same benches which you occupy the same awakening has come. The difference

between your case and theirs is, that you hear this fact announced at the commencement of your course, they when it was too late to retrace their steps and take another route. Any of you, therefore, who intend taking the License of the Apothecaries' Society will, upon receiving your diploma, be termed Apothecaries; those who obtain the Licenses of the College of Physicians and Surgeons, Physicians and Surgeons, respectively. These qualifications carry no title save "Mister."

The *Lancet* lays down that M.B.'s are entitled to the title "Doctor"—very illogically, one would think—but I fancy it reconciles the matter by assuming that to obtain the next step of M.D. is merely a matter of form, since many of the universities grant this degree to Bachelors in Medicine upon the reading of a thesis, and, as a secondary consideration, the payment of an additional fee.

Referring to the title of a physician, there even appears to be a doubt if a Licentiate of the College of Physicians is entitled to call himself a Physician, for in a recent number of the *British Medical Journal* it is set forth that only Members and Fellows of a College of Physicians are entitled to this distinction. Assuming this statement to be correct, we must infer that a Licentiate of a College of Surgeons is not entitled to call himself a Surgeon.

Of course I do not accept the *dicta* of these journals, but they indicate the general doubt upon nomenclature of title in our profession. One cannot but wish that as a way out of the difficulty the authorities would reconcile these heterogeneous titles to one class by establishing one common designation for all persons admitted to the pages of the "Medical Register." This is in vogue in the United States, where each practitioner who passes a recognised examination is given an M.D. As can be gathered by what I shall state subsequently, it is the commercial value of the dignity that renders the degree a desirable acquisition. As far as the vanity of individual members of the profession is concerned, I am sure that they are privately quite indifferent in this matter so long as it does not affect either their practice or appointments.

You may say with justice that a man with a license is equal in point of medical knowledge to an M.B., which, as

we have seen, is practically the examination for the Doctorate in Medicine. This I grant, for I hold, as can be confirmed by the Reports of the General Medical Council, that the professional examinations of the Royal Colleges are not one whit less severe or searching than the examinations of the Universities of Great Britain and Ireland. In point of fact candidates for the degrees of the latter are examined by many of the same examiners and in the same subjects as candidates for the diplomas of the Royal Colleges.

It is also true that the Government, when advertising for officers for the medical services, do not insist on candidates being graduates of a University. The controlling Boards of the various Services—naval, military, and civil—feel quite certain that so long as registered medical practitioners fulfil the Board's requirements and pass its examinations, a sufficient guarantee is given that the State secures competent medical officers. Furthermore, it cannot be said that the want of a degree at all interferes with the candidates from the colleges obtaining high places in the competitive examinations.

I have been at some pains to look up the matter, and I find that the men who have obtained the highest places are distinguished mostly by their lack of university distinction. Nor must it be forgotten, as an illustration taken from recent events, that neither of the Chitral heroes—Sir George Robertson and Surgeon-Captain Whitchurch, V.C.—boasts of an university affix to his name.

In such chaos of professional titles as obtains in the United Kingdom, it is no wonder that the public has long since become confused, and in its bewilderment has, especially in England, grasped the idea that the safest index to professional fitness is the possession of the title, M.D. Therefore, till the General Medical Council, with whom legitimately rests the definition of these titles for the guidance of the public, rectifies the present confusion, I would recommend everyone who can do so to obtain a university qualification.

So thoroughly has this pre-eminence been given to the title of M.D. that I have known of the candidature of men who were perfectly eligible for appointments set aside through the misconception of a Board as to the professional status of

licentiates. Indeed, there are medical men, I regret to say, who favour the misconception of the public in this respect for personal ends.

It is not a matter of fiction that among Poor-law guardians the M.D. has got his supporter to state that he alone is the only doctor among the candidates, and having disseminated doubts as to the legal qualifications of the other candidates has thereby gained the appointment.

That I am not dwelling upon a sentimental question, but one which gravely affects your professional career, can be gathered by a reference to the list of medical appointments. These are gazetted weekly in the columns of the *British Medical Journal*. Taking, haphazard, a copy of this journal for August 24th of the present year, I find that of 20 appointments made, 17 were obtained by University Graduates.

The struggle for existence is so keen in our profession, that if one hopes to rise in it, every legitimate advantage possible must be secured in one's student days. Do not mind the philosophers, who, when this subject is discussed, say that diplomas do not make the man.

This sentiment holds good only if you were considered embryonic Galens. Therefore I would impresss upon every student that University Degrees mean a good stock-in-trade, and their possession a matter which none of you will ever regret.

Gentlemen, I will not weary you with admonitions as to the necessity for diligence in study, as you will very soon experience, at the up-to-date examination Boards of the present, that those who are idle and fritter away their opportunities will suffer by rejection, with its consequent loss of time, money, and credit.

I would be glad, though, to encourage every student to enter for the class examinations at the end of the session. The experience to be derived will be of the utmost benefit in accustoming the student to the methods of oral examination before he enters for the professional ordeal ; nor is this the only advantage, for those who secure these Prizes possess honourable guarantees of their practical knowledge, which ought to perform yeoman's service when subsequently they

seek appointments. To those gentlemen who are about to qualify, or are in their last year of medical study, let me urge the desirability of their obtaining a residency in a hospital. Here the student will have every advantage of practice without its responsibility, nor should he overlook the most trifling detail in the management of the sick. The feeding of patients, especially the dieting of children, can here be closely studied. And let me here remark that, in general practice, nothing either pays better than this knowledge, or is more fruitful of good results to the patient.

Indeed, since rational dieting has almost superseded the use of drugs in diseases of the digestive system, an acquaintance with these principles is absolutely necessary. More than two-thirds of your medical cases will be suffering from stomach, liver, or kidney trouble. Upon the skilful feeding of such patients your reputation must greatly depend. And here let me counsel you to eschew the vague directions so commonly given by many physicians. As you are, doubtless, aware, the most hypochondriac of your patients will be the dyspeptic. Written instructions as to what he is to eat and what to avoid, with a few explicit directions as to the cooking of certain foods, will work wonders with this sufferer, both therapeutically and mentally—a sympathetic interest in all the symptoms which he will relate to you, if you can afford the time, will do much to win his confidence.

In many hospitals the house surgeon is expected to lecture the probationers. Should he not be familiar with the proper adjustment of a draw-sheet or the making and the application of a poultice, the want of such knowledge must recoil seriously to his disadvantage. Indeed, if it were only to be above the criticism of nurses already trained, especially those so carefully trained and so familiar with their duties as the Red Cross Sisters—these hints might be worth attending to. Nor should a visit to the hospital pharmacy be considered beneath the dignity of the residents or senior students. In these days, when many medical men dispense their own physic, a practical knowledge of compounding is of enormous advantage to the junior practitioner. There is nothing new in this advice—I mention these hints because I myself have followed them, and have found them of benefit.

The position of the young medical man who has just received his diplomas, no one will deny, is one of peculiar anxiety. He will, in any case, do well if he endeavours to obtain a house surgery as a start. To those gentlemen who find it necessary to at once go into general practice I would like to give a word of warning, so that they may avoid the many pitfalls which beset them. Should they seek an assistantcy they must be cautious in the extreme that they are not induced to enter the service of some unqualified man as a "cover," and even into the proposals of qualified men, requiring assistants, they should carefully look, both as to whether the principal's locality is one that they will like, and the amount of work he wishes them to perform not beyond their physical capacity. I have known men waste no mean portion of their small capital going from London or Dublin to remote parts of England to find that the assistantcy was not in any sense desirable. Should the junior practitioner desire experience before purchasing a better-class practice, there is little use in his going to a colliery district for such a purpose, or to become assistant to a man who has such a number of club patients that accurate and scientific diagnosis is out of the question, and not at all encouraged by the principal.

Those assistantships known as branch practice assistancies, it is well to note, are practices conducted, in almost all cases, by the assistant alone. The principal, in these cases, taking an interest only in the money receipts. The practice, nevertheless, is conducted solely in the name of the said principal. The work of branch practices is of the most onerous character, and the endurance and energy of the so-called assistant must be beyond fatigue.

Those gentlemen who are eligible for the naval and military services, and whose tastes lie in that direction, cannot do better than read with a view of joining one or other of the services.

The position is in many respects desirable, the work—as a rule—not too laborious, and the remuneration, at least in the junior grades, is more than the average practitioner of similar standing could obtain in civil life.

It must not be forgotten that this pleasing picture of the services has another side. Amongst the objectionable features

may be enumerated:—The want of a definite military rank and title, the certainty of prolonged service abroad, often in very unhealthy districts, with, of course, the accompanying possibility of a complete break-down in health and vigour; the liability to dismissal from employment at the end of twelve years' service on failure to pass the examination for promotion, and the insufficiency of payment in the higher grades.

Amongst minor drawbacks might be mentioned the ill-defined social status of the Military Medical Officer, his apparent ineligibility for membership of Military Clubs, the burthen of an unaccustomed discipline and subordination to authorities, and the too frequent change of station.

To those, however, who have not military aspirations, but who have the means to purchase a practice, I would suggest the advisableness of their becoming assistants to principals, with the view to partnership or succession. This procedure will prevent the young practitioner from being swindled, as the purchase of practices from unknown vendors is a very risky business indeed.

Gentlemen—I take the opportunity afforded me by this address, at this stage, to direct general attention to what has been long felt as a want in our educational system by all who have had experience, either as teachers or investigators in Dublin.

While the various anatomical, physiological, and chemical departments have been brought to the highest stage of perfection by a lavish expenditure of money, and now afford unequalled opportunities to the Dublin student of acquiring the most extended knowledge of these subjects, under the guidance of distinguished teachers, whose lives are devoted to scientific pursuits, the enormous mass of material for pathological and bacteriological enquiry is allowed to go to waste from the lack of a Central Institute where such investigations could be adequately carried out.

Out of many proposals, that which I consider the most feasible is the establishment of such an institution by the Royal Academy of Medicine, based upon the lines of that already founded by the Royal Colleges of Physicians and Surgeons of London.

The Royal Academy of Medicine is representative of every medical organisation—teaching, licensing, or otherwise—in Ireland. It should, therefore, be in a better position than any other body to bring a project of this nature to a successful issue.

In addition to its own funds, annual subsidies might reasonably be hoped for from the Irish Licensing Medical Authorities, University and Collegiate, as well as from the Medical Schools in Dublin and the Provinces.

The pupils of these corporations, in return, would participate in the educational advantages of the scheme.

To the furtherance of a matter so distinctly beneficial to the well-being of the public and the Irish profession generally, no valid objection can be offered.

Nor, again, would it be unreasonable to suppose that the petition of so important a body as the Royal Academy of Medicine for a substantial Government grant to further the objects of such an institution would be overlooked.

The Government has already granted aid for the furtherance of medical investigation in other portions of the United Kingdom. Why can they not do so in Ireland?

Let us enquire what the expenses of a

PATHOLOGICAL INSTITUTE,

conducted on the lines I have indicated would amount to.

The Initial Expenses for Equipment ... £500 0 0

Annual Expenses—

Salary of Chief ... £600 0 0

Two Assistants ... 200 0 0

Two Porters ... 100 0 0

Rent and Gas ... 200 0 0

Maintenance of Appliances, and Cost of Chemicals, &c. ... 200 0 0

£1,300 0 0

Total Expense of first year £1,800 0 0

For safety, say £2,000, with an annual expenditure of £1,300.

To meet this expenditure the following suggestions are made:—

The total number of Students requiring Certificates in Pathology, and now attending the three Dublin Schools, would be about 120, at about £3 3s. each for a three months' course. This would amount to ...	£378 0 0
A Grant from the Royal Academy of Medicine	100 0 0
A Grant from the Royal Colleges, each of £50	100 0 0
A Grant from the two Universities—the University of Dublin and the Royal University of Ireland—each of £100 ...	200 0 0
A Grant from University College (the Catholic University) of	100 0 0
A Grant from the Corporation of... ...	300 0 0

(In return for this last all *post mortem* examinations should be made, either at the morgue or elsewhere, by the Chief of the Institute or one of his assistants, free of cost, thus increasing the actual cost to the city by only £100 a year, as the cost of the *post mortems* made at present for the Coroner is about £200 annually).

Add to these items the fees paid by men studying for a diploma in public health—say twenty men annually at £10 each—£200; and we have a total of £1,378, which would be further supplemented by fees paid for *post mortem* examinations of animals by various county grand juries, &c., special courses in bacteriology to men already qualified, fees for examination of various specimens forwarded by practitioners throughout the country who may not be members of the Royal Academy of Medicine; and if to all these a small Government grant were added, the institution could be floated with every prospect of a useful career.

You will say, all this is very fine theorising, but we must not ignore or forget the difficulties. Well, what are the difficulties?

First, there is the necessity for united action on the part

of a number of different institutions, and we all know, from practical experience, how difficult it is to get a number of our countrymen to unite heartily and sink controversies for a common object. Undoubtedly, the difficulty of getting such diverse bodies as the Universities, the Royal Colleges, University College, the Dublin Corporation and the Royal Academy of Medicine to co-operate is great; but it ought not to be impossible.

Each of the teaching bodies wishes to have its own Chair of Pathology, with the result that none of them can be really efficient, as compared with similar institutions in France and Germany. None of them can afford to pay a salary to a Professor sufficient to induce a really capable man to give up his entire time to the work.

When the occupant of one of the chairs, as at present constituted, has made a name for himself, he will be promptly tempted elsewhere by the offer of larger emoluments.

Again, at present, not one of these gentlemen can be adequately supplied with what is absolutely requisite for the proper teaching of pathology now-a-days, namely, an abundance of recent specimens. No one of our Dublin hospitals is sufficient to meet this requirement, it requires the hearty co-operation of all. By having all the specimens brought daily to the Institute, demonstrations could be given every afternoon throughout the session, which all students would be free to attend, and which I know would be largely attended by them.

You may object that it will be impossible to obtain the consent of the present Professors of Pathology to their own annihilation. I do not think that this is so; as a matter of fact their present professorial emoluments are very small, and I do not think it would be difficult to propound a scheme by which they could be either compensated for their retirement or absorbed in the larger Institute.

The difficulties practically, are only three:—

1st. To obtain the hearty co-operation of the various bodies I have mentioned.

2nd. To provide for the existing Professors.

3rd. To obtain the various grants in aid of the work I have already set forth.

No doubt, time will be necessary before all these difficulties can be smoothed over, and, above all, time is the very thing we can least afford.

The University of Dublin has recently appointed to the Chair of Pathology, in its school, Professor Alexander O'Sullivan, a brilliant scholar, a Fellow of Trinity College and an enthusiast in his work. It proposes, I understand, to equip for him a laboratory at considerable expense, as soon as possible. When once this laboratory is established, it will be hopeless to expect that Trinity College will encourage or assist an outside scheme.

The march of events will similarly compel the other teaching bodies to spend their funds on similar equipments, and in place of one great central institution, that would be a credit to the whole country, and which would attract pupils from Great Britain and America, we shall see perpetuated that sub-division and diffusion of energy which has already proved so disastrous. It is the interest of all the medical teaching bodies and licensing bodies alike, that everything should be done by making our schools efficient to attract an ever increasing number of students to our city.

Under our present system, our class is not increasing; it is an open secret that the cause of this is largely the want of concentration in our efforts, and all who have studied the subject will agree with me in saying that a well-conducted Pathological Institute, under the control of an able man, devoting all his time to his work, and with competent assistants under him, would do much to neutralise our present weakness.

Some one may say, why do you venture to suggest that the Corporation of the city should be asked for a grant in aid of such an undertaking; in what way is that body interested in your scheme? My answer is, that the prosperity of the Medical School is of great importance to Dublin. The total number of students in the city is probably about 600, each of whom spends on an average for his maintenance and the payment of his fees about £100 a-year, thus making a total of about £60,000 a-year expended annually by the pupils of the Medical Schools in Dublin. This estimate is probably below the truth; but taking it as an approximation only, can

Dublin afford to lose this sum annually, and see it spent in Edinburgh and London? The extra tourist traffic in Ireland, for the encouragement of which such great efforts have been made lately, probably does not exceed this sum. This is an aspect of the problem that is not usually presented, but it is well worth consideration.

Again, the Dublin Corporation is the local sanitary authority acting through its distinguished officer, Sir Charles Cameron, and is therefore largely interested in all questions affecting the health of its citizens. It is not too much, therefore, to expect that a body, which has already shewn such an enlightened appreciation of its position and responsibilities by the large grants it so generously gives every year to the City Hospitals, would readily grasp the importance of such a proposal and its obvious bearing on the health and prosperity of its constituents.

The time for action has come—in the words of Burns' immortal war song—

“Now's the day, and now's the hour.”

The present is an opportune time for discussing the proposition in all its bearings; if postponed until the various colleges have spent their funds in equipment, it will be too late, and nothing will be left but vain regrets for a lost opportunity.

Furthermore, if the several Members of the Academy of Medicine had the privilege of sending their specimens, pathological or clinical, for careful examination, analysis, and report, to such an institute of investigation, the value of such membership would be distinctly advantageous to country practitioners. Many of our brethren who are debarred by distance from participating in the benefits of the Royal Academy of Medicine as at present constituted, would thereby be induced to further swell the List of Members of this distinguished Society.

In addition to other advantages, the benefits of an extensive library could be placed at the disposal of such an institution by the Royal Colleges permitting the members of the proposed organisation to participate in the enjoyments of their respective libraries—a proposal that for the purposes of procuring the maximum benefit of a library at a minimum

cost by the fusion of the two libraries mentioned, might be suggested as a matter of detail.

This proposal I venture to submit to the Profession in the hope that some steps may be taken to enable the Irish School of Medicine to retain the eminence it now holds, and in which the Meath Hospital has borne so honourable a part.

There is one other subject I wish to dwell on briefly—viz., the growing tendency to unprofessional conduct in our ranks—a tendency happily rare in Ireland. The Universities, the Colleges, the General Medical Council, and the British Medical Association, all have endeavoured to find some equitable means of dealing with offenders but without effect.

Since the authorities have failed, there is one, and only one, resource left—that is, to appeal to the individual Members of the Profession to uphold its honourable traditions.

I am confident, therefore, that in the hands of you, gentlemen, who have recently joined our Profession, the reputation of our high calling will never suffer, nor through you will this Hospital feel reproach.

It is possible that occasions may occur in the life-history of each of you when the temptation to take advantage of a professional brother may be great, indeed. In such cases the rule, “Do unto others as you would be done by,” is one which loses nothing by virtue of its antiquity and its divine origin.

To any of you who may think that the rewards of the Profession are inadequate to the many calls which suffering humanity may make upon your time, I would recall the words of Cicero—“That the recollection of a life well spent, and the memory of good deeds, are most pleasant.”

To my younger listeners I would like to say a word in conclusion:—

You are young and buoyant in spirits, and look at most things with the cheerfulness of youth; but do not forget that all around you here is misery and sadness, and that your duty in after-life, as it is your duty now, is to do all in your power, and you will find in too many cases that that all is very little, to alleviate some of that dreadful total of suffering and sorrow.

As you grow older, and your experience enlarges, you will

find that your estimate of poor suffering humanity steadily rises.

There is no place on earth where grander examples of human courage can be seen than in a Hospital. You will see here men and women, without a murmur, or sign of fear, listening to the words in which the saddened medical man conveys to them that they are suffering from some incurable malady, and that their days are certainly numbered.

Imagine any one of you being told that you would have to undergo an operation of the greatest hazard, necessarily accompanied by prolonged suffering, and a tedious convalescence if successful, and picture to yourself what your feelings under such circumstances would be—yet you will see men and women here cheerfully accepting the prospect, and with a confidence in medical science that approaches the sublime, walk fearlessly into the operation theatre, and place themselves absolutely and without reserve in the hands of the surgeon.

Never forget that around each patient, be he ever so humble or uninteresting, are grouped the hopes and fears of loving friends and relatives. Never forget that what to you is the interesting sarcoma, too often means bitter want and suffering to the widow and the orphan.

There are few of us who have not lost some beloved friend or relative. When you see the sorrow-stricken friends around the bedside of some poor suffering fellow-creature, think of what you felt yourself when someone very dear to you was taken away. Remember that all the patients you see here are suffering, and that all are poor. Go out any cold winter morning to the out-patient department, and add the pangs of bitter weather to those of sickness and poverty, and he must indeed be hardened and devoid of human sympathy who does not feel his heart sad within him at contemplation of all this misery, not a tithe of which he can assuage. You must remember, also, that there is another side to the picture—that the black cloud of sorrow is illuminated by the sunshine of human kindness.

This hospital, and countless similar institutions throughout the world, are maintained by the generous contributions of those whose lot is cast in pleasanter places than that of our

poor patients, but whose hearts are touched by the sufferings which they try so nobly to alleviate.

“One touch of nature makes the whole world kin,” and, thank God for it, in the darkest hours of our country, our wealthier fellow-countrymen have never failed to respond to an appeal for help, and no hospital in Ireland has ever yet had to shut its doors through want of funds.

ST. VINCENT'S HOSPITAL.

*A Proposed Change in the Method of Advanced Medical Education.** By RICHARD F. TORIN, F.R.C.S.I., Surgeon to St. Vincent's Hospital.

ALTHOUGH I see that many not belonging to the medical profession have honoured us with their presence at this the opening of the session of our school, I shall not hesitate to ask you, one and all, to consider with me, during the short time I shall detain you, some questions of medical education. Or, perhaps, it would be more correct to say that I find in such good company, not an obstacle, but an incentive to talk on professional topics. The incentive would be complete could it only be arranged that that part of my audience to whom I am referring should just, for the next quarter of an hour, be so troubled with bodily ailments that the proper education of physicians and surgeons would seem to them the one real subject in this world worthy of consideration. When in health men are inclined to think that the progress of medicine is altogether the concern of physicians—“It is their business,” it is said; “every discovery is an addition to their stock-in-trade—the profit is theirs, let them look to it.” But, gentlemen, when Plutus views our field of work, it is not in the area that science has cleared and where simplicity prevails that he sees his harvest, but rather in those unclaimed regions where the blind lead the sick through a jungle of nostrums. For as civilisation advances, side by side with wealth there grows an intolerance of suffering, and these conditions, taken in conjunction with the ignorance that prevails about disease, cause patients not

*The Introductory Address delivered at the opening of the Session of 1895-96, at St. Vincent's Hospital, on Tuesday, October 15, 1895.

to be deterred by the remoteness, doubtfulness, or costliness of the quest from wandering in search of remedies.

But it may be urged against making medical education the subject of an introductory address—"This question is threshed out." That it has been fully and ably treated I allow, and notably by colleagues of my own, but the fuller the reaped harvest, the more gleaning there is to be done, and although I may not be able to throw any new light on this most important question, I have a hope that the consideration and criticism which my remarks may call forth will not fail to do so. When addressing a mixed audience it is necessary to state one's case with a fulness that to some members of it must be wearisome. Most of us are personally acquainted with the position of medical education to-day, many of us with it as it was, in what I may call its glacial epoch, so fast are we advancing. Now it is systematised, then there was no system. Medical food was then served out very much as a hen-wife gives food to chickens, all in a lump. Now a student is made sit down to a well arranged *table d'hôte*, and so anxious are the waiters that he should dine well that they will not remove his plate till he has fully partaken of the course before him. This advance from confusion to system has been, I need not say, like other advances, one of development. And since in the most highly developed animals we find processes, such as the appendix of the cæcum, which had no doubt a use in their time, but which now only furnish work for the surgeon, we need not be surprised if, in the system of teaching medicine, there survive methods useful once, but now only a hindrance to the exercise of its higher functions.

The curriculum, as at present arranged in our schools, stands thus:—It extends over five years, and cannot be entered on till the student has passed an examination intended to show that the word liberal is applicable to his previous education. During the first two years he is almost altogether occupied with the study of sciences that form the foundations of medicine—viz., anatomy, physiology, physics and chemistry. These are commonly spoken of as medical studies, but here, for the sake of

clearness, I shall try and limit that adjective to the healing art. During the second year he is obliged to attend hospital, and many students wisely do so from the very first, but this is only a sort of preparatory attendance. During the third year he is liberated, in a great measure, from the study of the accessory sciences, and so during this year he can give a great deal of attention, and during the fourth and fifth year he can give his whole attention, to medicine and surgery proper.

It thus appears that there are two stages in the curriculum—a preliminary scientific stage, and a stage devoted directly to medical problems. It is with this second stage that I, as a hospital teacher, am most concerned, and the question that I ask you to consider with me to-day is this—Does the student spend his time during this second stage to the best advantage? As far as I can see he does not. For, in place of being relegated to the hospital for his training during this second period, he is obliged to attend the schools for theoretic lectures in medicine and surgery, and for examinations in connection with these lectures, and these examinations so dominate his views that he spends his time in hospital, not watching the changes in his patients, but on the look-out for ready-made answers to questions. If urged to make records of cases, he does so reluctantly, for he knows that, from an examination point of view, it does not pay, and if, towards the conclusion of his course, he is offered the position of resident pupil in a large and busy hospital, he often refuses it, because he is going in for his “final,” and, of course, the one thing essential is to pass. His medical education, therefore, notwithstanding a large amount of hospital attendance, is literary rather than practical.

I hold that the literary education of a medical student should be as full as circumstances will permit, but I also hold that literature—even medical literature—does not cultivate the whole plain of the intellect, and that it leaves practically untouched that portion of it in which the physician must gather his fruits—I mean the field of observation. Education, as it is at present understood, helps us to many things, amongst others to this—it enables us more or less to

conceal our shortcomings. Perhaps it is on this account that men in a civilised country appear to the casual observer a very even lot. Some may be enabled by the gift of music, painting, or literary skill, to distinguish themselves amongst their fellows, but, as a rule, we live by appearances, and it is most difficult to demonstrate or ascertain what a man is made of; what is his intrinsic worth, and especially to what extent he possesses that quality, than which no other makes him so useful to his fellow-man—I mean the power of original observation. It is not so amongst people for whom the problems of life are not made complex by civilisation. When it depends on a man's own unaided powers whether he shall die of hunger or cold, be devoured by wild beasts, or lose his way in the trackless wilderness, the question of what he is, as distinct from what he appears to be, is quickly answered. The man of appearances vanishes from the scene. We, therefore, find in uncivilised and nomadic tribes that not only does each individual possess quick perception, but that the degree in which he possesses this quality is well known to his fellows. For instance, if in some remote part of India or Africa you enter a village and ask for some one to help you in hunting big game, the man most suitable for your purpose is at once forthcoming. What he will do for you is amazing. An animal has been wounded, and it disappears in the jungle. He rushes forward and follows it, as if it were still in sight. You stick to him as best you can. When he pauses you ask him—"Are you sure we're right?" He perhaps only answers "See! See!" and starts on again. And he will, with marvellous precision, follow that wounded animal either till he overtakes it, or till it is evident that pursuit is hopeless. If questioned as to how he does it, he is at a loss to say. His methods are so ingrained in him that they belong to his instinct rather than his reason, but by much watching and asking you can reach many of them. I need not tell you that to follow an animal that is dropping blood at every step, or that has crossed a fresh sandy plain, is an easy task. But the expert tracker will follow one that leaves no blood-stains, and along paths as full of foot-

prints as are the flags in Grafton-street. He will tell you how long it is since it passed, the rate at which it had been travelling, and whether it was going lame or sound. Every up-turned particle of dust, every broken twig, every cropped blade of grass has appearances that tell him the exact moment when it acquired its characters. Looking at the distance between the footprints, and noting an irregularity in one, he may remark it is lame, but it is going fast ; and, later on, see, it halted here and looked round, and so on through details that would weary you. Suffice it to say that he can read from the surface of mother-earth all the incidents of a long chase as clearly as any of us may read the incidents of a hunt in an evening paper.

From our lives here civilisation has almost completely banished the necessity for observation. Our complex system requires a sub-division of labour; and each one gladly shifts from himself the trouble of judging and seeing. Moreover, education, as at present conducted, teaches us to see with the eyes of others rather than with our own. Consequently there is, coincident with the advance of culture, a general depreciation of acuteness of perception, and some of our faculties so atrophy from want of use that were we suddenly shifted back into a primitive state, many of us would rank as imbeciles and speedily perish. I do not think that this is an exaggeration. For have we not reached a stage when, provided a man has sufficient observation to recognise his own hat and umbrella in his club, he can carry on very well. Some cannot pass even this low standard, and yet they prosper. But pray, Mr. Chairman and Gentlemen, do not think that I want to depreciate civilisation unduly, or to throw in my lot with "narrow foreheads ignorant of our glorious gains." No; I am here rather to appeal to the broadest foreheads amongst you, and to ask you to think out for me the question I am submitting to you. I have not a word to say against the man who fails to recognise his own umbrella or knocker, and who has to ask a policeman the way at every turn, provided he does the work he is appointed to do efficiently. But I would ask him not to

forget that his powers of observation have not been developed by whatever system of education was applied to him, and that although he may be able to get on well as he is, there may be professions other than his, of which observation is the very essence. No dangers may await him now-a-days because he lacks acuteness of perception, but there may result much loss of life, and much suffering and sorrow, because others following other avocations are so wanting.

Out of such criticism as I have applied to the present state of medical education there naturally arises the question—Can regulations alter the conditions complained of, and make students look on books as only secondary sources of knowledge? And the answer is, Most assuredly they can. They have but to apply to the teaching of medicine and surgery the principle that has been applied to the teaching of all other arts and sciences—that is, the principle of making theoretic and practical work go hand-in-hand. The one should be made to wait upon and illustrate the other; or, to take a lesson from physiology, theory should not move independently, but should, like the blood, be made to flow through the whole system, and to nourish and vivify every part. But the non-medical portion of my audience may ask—What is to prevent such circulation going on at present? The plain answer is—Nothing but the regulations. The regulations order that the theory of medicine and of surgery is to be condensed each into a course of fifty lectures, to be given in schools which are in reality schools of anatomy, physiology, chemistry and physics, and they refuse to recognise systematic theoretic lectures given in hospitals in conjunction with practical work; and, further, the regulations are armed with a revolver in the shape of examinations, which enforces the obedience of students. Nothing else could keep alive such a system—one which, as it were by violence, keeps theory and practice apart.

If it is acknowledged that a student should be relegated to a hospital for his medical and surgical training, it follows, as a corollary, that his hospital teachers should have a voice in his qualifying examinations.

Examinations have a two-fold use—they compel the attention of a student to a particular course of study, and they gauge his knowledge. It is evident that medical examinations should keep both these objects in view, for I think you all agree that knowledge obtained by the observation of cases is deep, abiding, useful, and, in a true sense, educational, compared with that which is reached altogether through words. It is also evident that to do so they must, at least in part, be conducted by the person or persons in whose hands was the regulated course of study that preceded the examination; for such persons alone can have knowledge of the particular incidents constituting the education in question. Of course assessors from the Licensing Body, whose qualification the student sought, should attend such examinations. It would, in fact, be a conjoint examination, conducted in part by the Teaching and in part by the Licensing Body; and, while it would be on the report of its own representative that the latter would grant its licence, it would have the satisfaction of knowing that such report had been drawn up after consultation with men who had had almost daily opportunities of testing the candidates' capabilities.

Such, gentlemen, are the changes in the method of conducting medical education for which I ask your consideration and criticism. They do not seem revolutionary or difficult to carry out, but their effects would, I believe, be far-reaching. The objections are chiefly two, and they have been so fully answered by Dr. McHugh in a lecture dealing most admirably with this subject, that I need only mention them. The first is that the clinical teaching in hospitals is not sufficiently full and systematic to warrant the abolition of theoretic lectures in the schools. But why is it not full and systematic? Simply on account of these very lectures. Although they are only fifty in number for medicine and for surgery, they are supposed to complete the education of the student in these most extensive subjects; and so hospital teachers, relieved from the responsibility of giving systematic instruction, tend "to walk the wards" with their pupils in a rambling and drifting fashion. The abolition of the one kind of teaching means the reformation

of the other. It means a full course of teaching instead of a partial one, and a broader and better platform for the professors who at present fill, and most ably fill, the various chairs of medicine and of surgery. The second objection is that hospitals do not possess museums, such as are attached to some of the schools, the specimens of which are useful in illustrating lectures. I answer this by saying, that in hospitals you have specimens of both life and death; of men and of parts in which disease is active, and of men and of parts in which it has done its work. In this Hospital—although we do not go so far as does the establishment of a friend of mine who lately told me that in his hospital they make a *post-mortem* on every case; here, although not reaching such a wholesale slaughter—we have, alas, only too abundant opportunities of studying the morbid anatomy of all ordinary forms of disease. Moreover, it is studied in cases, the stages of which the investigator had watched during life. Surely this is no small matter—this direct lesson in cause and effect. Note also, before we pass on, one other superiority of hospital teaching as compared with museum teaching in this branch of study. In the former there is proportion; it is proportionate to the occurrences of life. In the latter there is none. For a museum, as we all know, abounds in curiosities and despises common things. It is a place to go to complete one's knowledge, but not to lay its foundations.

Mr. M'Ardle, in a lecture which he delivered here this time last year, took on himself, and I need not say ably discharged, the truly patriotic but somewhat thankless task of contrasting the position of the Dublin schools with that of more prosperous rivals. His statements were severely criticised in some quarters at the time; but surely since they cannot be gainsaid, it is more manly and sensible to inquire into the cause of the difference than to turn away from it. Anyhow, try as we may, we cannot shut out the fact that schools, not far from us, attract not only their own countrymen, but our countrymen and crowds from foreign lands. Nor can any one assert that such is the case here. It cannot be said, for instance, that as you walk round Stephen's-green or College-green you have

to make way on the foot-paths for Australians, Americans, Hindoos, Japanese, as you would have to do in the neighbourhood of the chief schools in Scotland or Germany. Why is this? It is due to a fact which diverts to these other countries, not only medical traffic, but tourist traffic, and other kinds of traffic—the simple fact that they in some particular things attend better to their business. For instance, who has been to Vienna or Berlin without being struck by the efforts they make there, to systematise clinical teaching and to cater for the wants of all comers. If you attend an out-patient clinique are you not surprised by what appears the miraculous turning up of cases that exactly illustrate the subject that is on that particular day being taught? But if you are allowed to linger on after the show the miracle is explained. You will see the teachers going round and giving to such of the patients as had come, not for treatment but to show themselves, a sum graduated according to the rarity of the ailment; and so far is this carried, so much can a person with a rare and interesting, and perhaps not troublesome, ailment earn, often visiting three or four classes in one day, that he comes to look on his affection as a veritable God-send. And which of us also, gentlemen, to take another view of the matter, has been around the said schools, and has been behind the scenes, getting an insight not only into the excellences, but also into the shortcomings of the various systems, without saying to himself, and feeling in his heart, "How much better we could do this at home if we only tried." Let us try. We have it in us to do as well as any if we try. Let us try to make our schools fill a position in the world's eye, and so leave them less dependent than they are now "on the prices at Ballinasloe."

In trying to do so, there is, I think, one principle we should keep before us. It is, that the business of the licensed teachers is to teach, and that the only measure of teaching is the change wrought in the pupil by the teacher. This is not a truism, but a recondite truth that has long remained unrecognised by many of those whom it most concerns. When I was a student it was so little recognised that we never went near the licensed teachers

at all. It was considered to be the duty of the professors to lecture, and of the grinders to teach, so we paid the fee for the lecture, but we attended the grind. One of the few professors who disapproved this system was the late Mr. Jacob, and he was easily irritated by any allusion to it. There is a story of a guileless youth, who, ignorant of his peculiarity, stopped him in the college yard one day and asked him—"Are you Professor Jacob?" and, having made sure of the identity of the strange face, followed it up with the request that he should sign for him a certificate of six months' attendance at lectures. It is scarcely necessary to state that the interview terminated abruptly. Another proof that it has often not been recognised, is the fact that many a man who has taught most successfully as a grinder has utterly failed to do so on being made a professor. Such a one has, no doubt, thought that, on being promoted, it was not so much his duty to teach as to give a set and rounded discourse.

I know that now-a-days much of this is changed, that attendance at lectures is compulsory, and that many professors so fully recognise the responsibility put on them by the double tribute of time and money, which the regulations enable them to exact, that they fully teach their subject and leave no need for private tuition except for slow and inattentive pupils. But is this the case all round? Do not the pupils of some professors fail in unusual numbers? Are not the pupils of others compelled to learn their work, not from the licensed professor but from private tutors? Is it not a common thing to hear professors recounting absurd answers given at examinations by their own pupils, answers showing, if they show anything, that such professors have failed in being intelligible? And when the pupil of any professor fails, is not the failure set down altogether to the pupil, and is he not forced by the regulations to pay the full pecuniary fine of his failure in the shape of a fee for re-examination? Nay, until recently, was he not compelled to go back and pay a second fee for further training to his accomplice in the failure?

If this aspect of the education question is well looked

into, I think it will yield good results ; for it should always be borne in mind that the councils and committees who draw up the regulations are representative of us, the teachers, and not of the students, and that, although it may be true that students have in them a double dose of original sin, it is also a fact that professors are not immaculate. Value it is that attracts students. How familiar to us all is the student's question, " Does he give value ? " Cheapness is, of course also important, but it is secondary, and is included in the word value. Surely most men before beginning medicine have grasped the great economic maxim, that " This is a world where you get nothing for nothing, and deuced little for a halfpenny."

But, gentlemen, I am wandering from my main point—the advisability of making hospital teaching a true education, by relegating students altogether to the hospitals during their second period of study.

I return to it merely to leave it in your hands, and to give my opinion that, since Dublin possesses teachers and facilities for teaching second to none, it should be foremost in carrying out such a reform. What developments clinical study so situated is capable of, I shall not say. I would leave that with confidence to the initiation of the Boards of the various hospitals, and to the students, who, whatever it may have been in the past, are to-day as a body really intent on learning.

Students of St. Vincent's Hospital, let me in concluding, address to you a few remarks. I ask you, in the first place, not to wait for any change of regulations, but, as many of your predecessors have done, at once to make for yourselves a true definition of education, and to carry that definition into practice. Let learning wait upon observation. While never forgetting that in the matter of learning you are " the heirs of all the ages," and that, as doctors, you will be expected to give your patients the benefits of your inheritance, keep still more carefully in mind—for here the educational regulations fail you—that without cultivated powers of observation, no mere book-knowledge can be turned to use.

When you are brought face to face with cases, and can see

nothing in them, do not be dismayed. Attack them boldly, set about examining them systematically, and record your observations accurately. Do not shirk this last detail, though at times it may be irksome and appear to you useless, for there is no other exercise which will more surely clear away that haziness of mental vision, so fatal to all progress.

Get into the habit of guiding yourselves by your own observations, and when you see a blind man making his way with a stick through the streets, lift your hat to him and hand him a sixpence for the lesson he is giving you.

But why weary you with words when I can refer you for guidance, both in education and in conduct, to a great life that has just closed—that of one whose discoveries have revolutionised surgery, and who was a student to the day of his death. Search out wherever you can the particulars of Pasteur's life; they will tell you of a man, kind, simple, reverent, and unselfish; not jealous of others; ignorant of nothing but his own greatness; with a child-like piety, with assiduously-cultivated powers of observation and an untiring industry in watching and recording every incident likely to throw light on the problems he put himself to solve.

Such men are rare, whether it is that they are rarely born, or that they do not come to development and to light, owing to conditions which put a premium on quite different qualities. Therefore, let us keep Pasteur and his ways fresh in our memories. Let us, as he did, educate every faculty we possess, and put them modestly and unreservedly at the service of our fellow-men, with this certitude checking materialistic pessimism, and cheering us under all conditions—WE CAN DO GOOD.

DIPHTHERIA.

M. LOEFFLER, at the International Congress at Budapest, recommended the following local application for diphtheria: R.—Toluol, 36 centim.; metacresol, 2 centim.; menthol, 10 grammes; alcohol, to make 100 centim.—mix. To be applied with cotton wool to the diseased membrane.—*Reperoire de Pharm.*, No. 10.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

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SECTION OF SURGERY.

President—Sir W. THORNLEY STOKER, F.R.C.S., President of the Royal College of Surgeons in Ireland.

Sectional Secretary—KENDAL FRANKS, F.R.C.S.I.

Friday, March 15, 1895.

The PRESIDENT in the Chair.

Varicocele Nævus and Varicose Veins of the Leg.

MR. CHARLES BALL read a paper on the arrest of bleeding by sutures in special reference to the operations for varicocele nævus and varicose veins of the leg.

In varicocele the mass of spermatic veins is separated from the vas deferens, a clamp forceps is applied above and below, and the entire mass is excised “en bloc.” The cut surfaces are now brought together by a very fine continuous suture passed all round the cut extremities and the ends firmly knitted together, the forceps is now removed, and if any bleeding takes place additional sutures are put in. No ligatures whatever are used, reliance must be placed altogether on the sutures to stop bleeding, as in the operation for hare-lip; by this method the spermatic circulation is occluded altogether, the vitality of the testes being provided for by the deferential arteries and veins. Union between cut extremities of the veins effectually braces up the testicle. In a period of five years this operation had been performed nine times with complete cure by primary union, no case of recurrence being met with.

In nævus a number of needles are passed under the growth, each of which is threaded with boiled silk. An elastic ligature passed round under the needles temporarily arrests bleeding, the nævus is excised down to the needles; the elastic ligature is now removed, the needles pulled through and the silk sutures firmly knotted; in this case also bleeding is controlled by the sutures, if sufficient are put in and union takes place rapidly.

In varicose veins of the leg an incision is made over the portion to be removed, two pair of catch forceps applied to the vein, which is divided between them and dissected up to each angle of the incision. Boiled silk sutures are now passed under the entire length of the wound, the ones at each angle closed completely controlling the vein, which is cut away close to the sutures; a fine continuous suture is applied to the margin of the wound, and the remaining deep sutures are closed. Here again no ligatures of any kind are applied to the veins.

THE PRESIDENT thought that papers dealing with practical matters of detail of this sort were of more interest than the capital subjects of surgery. With regard to the question of the avoidance of ligatures, he agreed with Mr. Ball. Quite recently he had written a paper, published in the *Dublin Journal of Medical Science*, on operations on veins. He thought that sutures were better avoided in superficial operations which have to do with veins. Mr. Ball's passage of a ligature under the varicose vein is practically a soft ligature by acupressure. The President did not approve of the removal of large portions of veins. He would prefer several operations over a limited area. He has done hundreds of operations for the cure of varicose veins, and both he and his colleagues have given up large operations on veins. He agreed with nearly all Mr. Ball said on operations for varicocele. In that case pressure applied by a pad low down over the loose scrotum is not suitable. His own practice is to excise from half to one inch of the pampiniform plexus, pass a sterilised catgut ligature round the stump, and ligature the cut ends. He only tied the ligature round the stump tight enough to stop haemorrhage. The part did not then necrose, and no slough was left. One great difficulty was the exact ligaturing of the skin of the scrotum, owing to the inversion of the skin, produced by the dartos muscle. He had learned a plan from the late Mr. Stapleton, of Jervis-street Hospital. It was called a *post-mortem* suture, and was passed from the deep surface to the skin. This produces eversion.

MR. BENNETT bore testimony to the success of the cases mentioned by Mr. Ball. What he thought of most importance was his method of dealing with nævi. If the nævus were only the size of a shilling there was no necessity for cutting it out. Two ligatures could be passed at right angles, with an elastic ligature round them, and the little tumour contracted to nothing in a week. But in a large growing nævus in a young child what was to be feared was the loss of blood during the performance of the operation. By Mr. Ball's method no blood was lost. It was a much

superior method to the different coloured strings adopted by Erichsen.

DR. S. M. THOMPSON highly approved of deep sutures. Secondary haemorrhage was not nearly so liable to occur, and the dressings could be left on for a considerable time.

MR. KENDAL FRANKS entirely agreed with what Mr. Bennett had said about nævus. He had never tried Mr. Ball's method, but hoped he would have an opportunity of trying it shortly. It was a new method. He did not think there was so much novelty in the other matters mentioned in this paper. He did not think there was ground for the terror which some people had for a drainage tube. Where there is considerable loss of substance beneath a wound, he generally preferred to insert a drainage tube after suturing the skin, and to apply pressure. In the majority of cases, however, he thought the deep suture the best. In breast operations, and above all in amputations, he thought the deep suture the ideal method. He preferred the President's method of operating on varicocele to Mr. Ball's. With regard to operations on varicose veins, he did not see any difference between putting a ligature under the vein and tying it over the skin and tying it under the skin. It is quite unnecessary to remove large portions of veins. He thought that the success of operations on varicose veins depended on the after treatment. If the patient is allowed to walk about without any support to the limb, when the wound is healed, superficial veins will often enlarge. The patient must wear an elastic bandage or stocking for 4 to 6 months, until the collateral circulation through the deep veins is effected. As the deep veins lie between muscles, if they become varicose, it does not signify.

MR. THOMSON thought Mr. Ball's treatment of nævus was the most important practical suggestion. It seemed to him that the ligature had been put upon its trial. Mr. Ball had abandoned the term ligature for suture, but he maintained that Mr. Ball was only ligaturing the veins in another way. He thought his results were not due to this particular form of suture. Some of Mr. Ball's methods were neater methods, but not better in their absolute results.

MR. TAYLOR had seen a good many of the cases operated on by Mr. Ball. In the operation for varicocele, the catching of the veins by the forceps flattened them out, and so there was a good broad line of union on suturing. The shortening of the cord was important, because if the testicle was allowed to drop back into the scrotum it would draw on the cord and cause a recurrence of the pain, which is always present in cases of varicocele. He thought

a very good way of closing the scrotal wound was to draw the angles of the wound apart, and put in a continuous suture. Since he had been to Vienna he was more than ever in favour of deep sutures.

MR. BALL, replying, said that the President had used the terms "necrosis" and "slough" as being practically synonymous terms. He did not agree with this. A necrotic part becomes a slough when it becomes septic. The more necrotic tissue, as ends of veins, that is present in a wound, the more likely is it to become septic. A certain amount of necrotic tissue can be absorbed, but the less there is in a wound the better. In varicocele, by suturing the cut veins together, there are no necrotic ends formed, as would have resulted had they been ligatured. In operating for varicose veins on the legs, he removed several small sections. In that operation the suture is like a ligature in that it surrounds the vessel. This, however, is not the case in the operations for nævus and varicocele. In the operation for varicose veins of the leg, he thought his method of introducing the ligature was easier, and certainly it was easier to take out. It also dispensed with two pieces of catgut lying inside, and any operative technique which enables a surgeon to dispense with dead matter in a wound is an advance.

New Operation for the Cure of Rotation Inwards of the entire Limb.

MR. SWAN read a paper on this subject. [It will be found at page 290.]

THE PRESIDENT, commenting on Mr. Swan's paper, thought that his theory of a descent back into lower forms of animal life very interesting, and quite in conformity with the explanation of many deformities.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—DR. J. A. SCOTT.

Sectional Secretary—MR. J. B. STORY.

Friday, April 6, 1895.

The PRESIDENT in the Chair.

Microscopical Section of a Rare Tumour.

DR. PARSONS read a paper on the above subject.

DR. M'WEENEY thought the growth was justly called a cylindroma, but that it did not belong to that class which occurred

from hyaline degeneration of the blood vessels; because the hyaline strands were very closely placed together, and there were very few cells. Unless it was assumed that there was an angiomatic proliferation of the capillaries, which afterwards underwent hyaline degeneration. Hyaline spots and strands were often met with in sarcomata, but not nearly in so great number as in this case. He had himself seen only one case of cylindroma. It occurred in the hard palate, and was adherent to the bone. It was removed six times, recurring each time.

DR. PARSONS agreed with Dr. M'WEENEY that the tumour must first have been very vascular. It was three years since the tumour was removed, and he had not seen the patient since.

Fibro-myxoma of Tongue.

DR. M'WEENEY showed this specimen, which was an encapsulated, translucent yellowish tumour, about the size of the kernel of a hazel nut, removed by Mr. CHANCE, at the Mater Misericordiae Hospital, from the tongue of a man, aged twenty-three, who exercised at intervals the occupation of a prize-fighter. No history of syphilis, either congenital or acquired. A swelling had been noticed for some time on the dorsum of the tongue, to the left of the middle line and about an inch from the tip. The tumour came away at once, being quite free from adhesion to the surrounding structures. Histologically examined after fixation in FOA's reagent, it proved to be a fibroma, with here and there so much structureless or faintly fibrillated ground-substance as to justify the name myxoma. In the middle were several lacunar spaces filled with red blood corpuscles and coagulated albuminous material. They were evidently dilated lymph spaces into which haemorrhage had taken place. In the neighbourhood of other places where there had been small haemorrhages, numerous cells laden with golden pigment, as well as extra-cellular pigment granules, were seen. Most of the nuclei in this growth were spindle-shaped, some being very wavy in outline, but here and there were patches of epithelioid cells with vesicular nuclei. Mitoses were not seen. The rarity of fibro-myxoma occurring in the tongue was mentioned.

MR. CHANCE said it occurred in a fine muscular young fellow. He noticed a lump coming on the side of his tongue four months previously. He went to a doctor who opened it, but it did not get smaller. It was not inflammatory, and was very easily removed. There was no specific history.

Congenital Dentigerous Tumour of the Neck.

DR. M'WEENEY also showed this specimen, which was removed by MR. CHANCE from the left side of the neck of a girl, aged twenty-three. The tumour, which was small at the time of birth, had increased steadily until, at the time of operation, it had attained the dimensions of a good-sized orange. It was subcutaneous, with deep attachments, and sprang from the level of the hyoid bone, to which it was adherent by a sort of process. To the naked eye it seemed made up of a dense fibroid stroma, in which were embedded numbers of cysts, averaging the size of a pea, filled with mucoid material. The trabeculae between these cysts were dense and thick, and contained many bars and nodules of cartilage, as well as several immature-looking teeth. Numerous patches of dark pigment were also seen on the cut surface. Histologically the cysts were lined with epithelium, high-columnar in some, cubical in others; the nucleus in the former case being close to the basal attachment of the cell, the protoplasm clear and hyaline. In one cyst cilia could be made out with difficulty on the epithelium. The cartilage was mostly of the hyaline variety, and though in places slight fibrillation of the ground-substance was made out, there was no approach to reticular cartilage present. The bone was mostly in the shape of hollow cylinders enclosing a quantity of adipose tissue. It was always provided with a distinct periosteum. In the growth were also calcified corpora amylacea and other structures of doubtful nature. Congenital tumours of the neck were not uncommon, but were mostly either purely cystic or purely cartilaginous—cystic hygromata or cervical auricles. This was a rare example of a combination of both forms. Its origin from a branchial arch and the literature of the subject were discussed.

MR. CHANCE said it was peculiar from a surgical point of view. It turned the angle of the jaw outwards, causing considerable deformity. Its removal was difficult. It was firmly attached to the surrounding structures, quite unlike an ordinary glandular tumour. But the main difficulty in removing it was that, from an aesthetic point of view, the incision had to be inconveniently placed under the jaw, and was of small size.

Orbital Tumour.

MR. ARTHUR BENSON and DR. GRAVES communicated the notes of a case of orbital alveolar sarcoma in a man, aged fifty-five. The growth seemed to start from the region of the lachrymal sac,

and was about the size of a small hen's egg, hard and lobulated. It protruded forwards in the region of the left lacrymal sac, and over it the skin was tense, thin, and adherent on the apex. The eye was protruded forwards and outwards to a considerable extent. The fundus of the eye was normal, and the motions of the globe but little impaired. The tumour was surrounded by an imperfect capsule, and the bones at the nasal duct, superior wall, and apex of the orbit were bare and eroded as if absorbed by the pressure of the tumour, which extended back to the apex. After removal, the eye returned almost to its normal position, when the wound healed.

Dr. GRAVES, who examined the tumour microscopically, reported it to be a large round-celled alveolar sarcoma, with, in one place, near its anterior surface, a pigmented patch.

DR. M'WEENEY entirely agreed with the diagnosis made by Dr. Graves. He had himself lately examined a similar tumour removed by Dr. Werner. In his case, however, the greater part of the tumour consisted of fibrous tissue, with here and there islets of sarcomatous cells, with an alveolar arrangement. At first sight, without the history, the specimen would suggest a carcinoma, but he was of opinion that it was a large, round-celled, alveolar sarcoma.

DR. PARSONS thought it was probably an example of alveolar sarcoma. But the diagnosis was very difficult. The alveolar structure was seldom present in sarcomata, but was always present in cancer. The only way to be absolutely sure would be to find whence the tumour grew.

MR. BENSON, replying, said that at first Dr. Graves was uncertain as to the diagnosis, and it was only after examining a series of sections that he came to the conclusion that it was an alveolar sarcoma.

Fatal case of Sarcoma of Ear.

MR. STORY described a fatal case of malignant disease of the middle ear, the first he had observed in 18 years, during which period over 12,000 aural cases had come under his observation at St. Mark's Hospital. The patient was a young man about thirty years of age, from whose middle ear a polypus was removed in September, 1894. Fœtid otorrhœa was present and had existed some two months, with intense pain in the head. The polypus returned again and again after removal, necrosis of part of the temporal bone showed itself, and all the glands of that side of the neck became involved. Paralysis of the 7th nerve, with difficulty in deglutition and speech supervened, and the patient finally died

of weakness within six months after the removal of the first polypus. Prof. Scott showed microscopic sections of the tumour in the ear, and of a secondary growth in the neck, both of which he regarded as sarcomatous.

MR. BENSON said he saw the case before the present diagnosis was arrived at, and the idea of malignant growth had never occurred to him. At that time it looked very like a severe case of mastoid implication, as a sequence of middle ear disease.

DR. M'WEENEY called attention to the presence of large masses of oat-shaped cells, without any intercellular substance. Also that the tendency of these cells was to tail off into the connective tissue which surrounded the entire mass. This seemed to point to rodent ulcer, but there were no cell nests.

MR. STORY, replying, said that before the microscopical examination was made he thought it was probably an epithelial growth. This was based on the view that carcinomatous growths spread more by the lymphatics than by the blood vessels. After the first gland had been scraped out and the incision made into the swelling below the apex of the mastoid, the case remained quiescent for some time, but then one by one the lymphatic glands of that side of the neck began to be involved. The patient died, not from perforation of the malignant growth into the cranial cavity, but from weakness, with difficulty in deglutition, which came on simultaneously with the loss of speech. The only septic matter observed all through the case came from the meatus in connection with the diseased bone.

DR. SCOTT, in reply to Dr. M'Weeney, said that he might have raised another objection, namely, that it was simple granulation tissue. The masses of tissue he got were very small, but were taken from different parts, and it was likely that it was a big cancerous mass. The whole growth seemed to be essentially a growing mass of cells. The cells were somewhat epithelial in character, but he believed that it was a sarcoma and not a carcinoma.

IODIDE OF POTASSIUM MIXTURE.

DR. SPENCER recommends the following prescription: R.—Iodide of potassium, 30 grammes; am. cit. of iron, 4 grammes; tincture of nux vomica, 8 grammes; tincture of quinine, 120 grammes; distilled water, 30 grammes.—mix. A teaspoonful in water after each meal.—*Corr. Ph. f. schweiz. Aerzte.*

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;

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VITAL STATISTICS

For four Weeks ending Saturday, October 5, 1895.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	Sept. 14.	Sept. 21.	Sept. 28.	Oct. 5.		Sept. 14.	Sept. 21.	Sept. 28.	Oct. 5.
Armagh	21.0	28.0	0.0	7.0	Limerick	16.8	28.1	26.7	14.0
Belfast	17.7	21.2	20.2	20.0	Lisburn	12.8	12.8	4.3	42.6
Cork	18.0	22.1	19.4	17.3	Londonderry	14.1	18.8	20.4	18.8
Drogheda	17.6	17.6	17.6	8.8	Lurgan	22.8	18.2	4.6	18.2
Dublin	25.1	21.6	24.2	20.4	Newry	20.1	12.1	32.2	16.1
Dundalk	4.2	16.8	12.6	20.9	Sligo	15.2	10.2	10.2	10.2
Galway	18.9	49.1	18.9	11.3	Waterford	25.0	20.0	12.5	25.0
Kilkenny	4.7	23.6	14.2	9.4	Wexford	9.0	22.6	9.0	22.6

In the week ending Saturday, September 14, 1895, the mortality in thirty-three large English towns, including London (in which the rate was 15.4), was equal to an average annual death-rate of 19.3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 16.9 per 1,000. In Glasgow the rate was 17.4. In Edinburgh it was 15.8.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 20.2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2.4 per 1,000, the rates varying from 0.0 in eight of the districts to 4.7 in Kilkenny—the

only death registered in that district being caused by enteric fever. Among the 93 deaths from all causes registered in Belfast are 3 from scarlatina, 1 from typhus, 2 from whooping cough, 2 from simple-continued fever, 2 from enteric fever, and 4 from diarrhoea. The 12 deaths in Limerick comprise 2 from scarlatina.

In the Dublin Registration District the registered births amounted to 192—101 boys and 91 girls; and the registered deaths to 170—75 males and 95 females.

The deaths, which are 8 above the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25.4 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 25.1 per 1,000. During the first thirty-seven weeks of the current year the death-rate averaged 29.6, and was 2.0 over the mean rate in the corresponding period of the ten years, 1885—1894.

Twenty-five deaths from zymotic diseases were registered, being 10 over the number for the previous week, but 8 below the average for the corresponding week of the last ten years. The 25 deaths comprise 1 from small-pox, 1 from scarlet fever (scarlatina), 3 from influenza and its complications, 3 from whooping-cough, 4 from enteric-fever, and 12—7 infants under 1 year old, 4 children aged 1 year and under 5 years, and 1 adult—from diarrhoea (being 5 below the average number of deaths from that cause in the corresponding week of the last ten years). The death from small-pox is that of a female aged nine months unvaccinated.

The number of cases of small-pox admitted to hospital was 9, being 5 over the admissions in the preceding week. Three small-pox patients were discharged, and 18 remained under treatment on Saturday, being 5 over the number in hospital at the close of the preceding week. No convalescent patients remained in the South Dublin Union Small-pox Hospital, Kilmainham, at the close of the week.

Twenty-one cases of enteric fever were admitted to hospital, against 10 admissions in the preceding week and 17 in the week ended August 31. Eleven enteric fever patients were discharged, 3 died, and 62 remained under treatment on Saturday, being 7 over the number in hospital on that day week.

The hospital admissions included, also, 21 cases of scarlatina, being an increase of 14 as compared with the admissions in the preceding week. Seven patients were discharged, 1 died, and 82 remained under treatment on Saturday, being 13 over the number in hospital at the close of the preceding week.

Seventeen deaths from diseases of the respiratory system were registered, being 7 over the number for the preceding week, but 1 below the average for the 37th week of the last ten years. They consist of 12 from bronchitis, 3 from pneumonia or inflammation of the lungs, and 2 from croup.

In the week ending Saturday, September 21, the mortality in thirty-three large English towns, including London (in which the rate was 16.0), was equal to an average annual death-rate of 19.8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18.5 per 1,000. In Glasgow the rate was 19.6, and in Edinburgh it was 18.1.

The average annual death-rate in the sixteen principal town districts of Ireland was 21.6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2.4 per 1,000, the rates varying from 0.0 in eight of the districts to 4.5 in Wexford—the 5 deaths from all causes registered in that district comprising 1 from whooping-cough. Among the 111 deaths from all causes registered in Belfast are 3 from scarlatina, 1 from whooping-cough, 2 from enteric fever, and 9 from diarrhoea.

In the Dublin Registration District the registered births amounted to 242—104 boys and 138 girls; and the registered deaths to 148—77 males and 71 females.

The deaths, which are 11 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22.1 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 21.6 per 1,000. During the first thirty-eight weeks of the current year the death-rate averaged 29.4, and was 1.9 over the mean rate in the corresponding period of the ten years, 1885–1894.

The number of deaths from zymotic diseases registered was 21, being 11 below the average for the corresponding week of the last ten years, and 4 under the number for the previous week. The 21 deaths consist of 1 from small-pox, 2 from scarlet fever (scarlatina), 2 from typhus, 1 from whooping-cough, 1 from simple-continued fever, 2 from enteric fever, 1 from infantile cholera, and 11—5 infants under 1 year old, 4 children aged 1 year and under 5 years, and 2 adults—from diarrhoea, being 6 under the average number of deaths from that disease in the corresponding week of the last ten years. The death from small-pox is that of a boy aged 5 years,

who had no medical attendant during his illness: he is stated to have been vaccinated.

The weekly number of cases of small-pox admitted to hospital, which had risen from 4 in the week ended September 7 to 9 in the following week, fell to 5. One small-pox patient was discharged, and 22 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

The number of cases of enteric fever admitted to hospital was 11, being 10 under the admissions in the preceding week and 1 over the number in the week ended September 7. Ten patients were discharged, 1 died, and 62 remained under treatment on Saturday, being equal to the number in hospital on that day week.

Twelve cases of scarlatina were admitted to hospital. This number shows a decline of 9 as compared with the number of cases of the disease admitted in the preceding week, but is 5 over the admissions in the week ended September 7. Eight patients were discharged, 1 died, and 85 remained under treatment on Saturday, being 3 over the number in hospital at the close of the preceding week.

Twenty-two deaths from diseases of the respiratory system were registered, against 17 in the preceding week, and an average of 18 in the 38th week of the last ten years. They consist of 9 from bronchitis, 12 from pneumonia or inflammation of the lungs, and 1 from croup.

In the week ending Saturday, September 28, the mortality in thirty-three large English towns, including London (in which the rate was 18.2), was equal to an average annual death-rate of 21.0 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17.5 per 1,000. In Glasgow the rate was 19.4, and in Edinburgh it was 15.0.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 20.9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3.2 per 1,000, the rates varying from 0.0 in ten of the districts to 8.1 in Newry—the 8 deaths from all causes registered in that district comprising 2 from diarrhoea. Among the 106 deaths from all causes registered in Belfast are 5 from scarlatina, 2 from whooping-cough, 1 from simple continued fever, 4 from enteric fever, and 9 from diarrhoea. Of the 28 deaths in Cork 1 was from enteric fever and 1 from diarrhoea. Among the 19 deaths in Limerick are 1 from whooping-

cough and 1 from diarrhoea. The 13 deaths in Londonderry comprise 1 from whooping-cough, 1 from enteric fever, and 3 from diarrhoea.

In the Dublin Registration District the registered births amounted to 156—77 boys and 79 girls; and the registered deaths to 166—83 males and 83 females.

The deaths, which are 1 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24.8 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 24.2 per 1,000. During the first thirty-nine weeks of the current year the death-rate averaged 29.3, and was 1.9 over the mean rate in the corresponding period of the ten years, 1885-1894.

Twenty-seven deaths from zymotic diseases were registered, being 6 over the number for the preceding week, but 1 under the average for the 39th week of the last ten years. They comprise 2 from small-pox, 1 from measles, 2 from scarlet fever (scarlatina), 1 from influenza, 4 from whooping-cough, 2 from enteric fever, 1 from choleraic diarrhoea, 12—6 infants under 1 year old, 3 children aged 1 year and under 5 years, and 3 adults—from diarrhoea (being 4 under the average number of deaths from that disease in the corresponding week of the last ten years), and 1 from dysentery. The deaths from small-pox are those of a man aged 32 years and of a woman aged 24 years, both of whom had been vaccinated.

Only 2 cases of small-pox were admitted to hospital, being 3 under the admissions in the preceding week, and 7 under the number admitted in the week ended September 14. Four small-pox patients were discharged, 2 died, and 18 remained under treatment on Saturday, being 4 under the number in hospital at the close of the preceding week.

Seventeen cases of enteric fever were admitted to hospital, being 6 over the admissions in the preceding week, but 4 under the number admitted in the week ended September 14. Nine patients were discharged, 1 patient died, and 69 patients remained under treatment on Saturday, being 7 over the number in hospital at the close of the preceding week.

The hospital admissions included also 12 cases of scarlatina, being equal to the number of cases of that disease admitted during the preceding week. Eighteen patients were discharged, 1 died, and 78 remained under treatment on Saturday, being 7 under the number in hospital on that day week.

Only 14 deaths from diseases of the respiratory system were registered, being 8 under the number in the preceding week and 4 below the average for the 39th week of the last ten years. They comprise 5 from bronchitis, 6 from pneumonia or inflammation of the lungs, and 1 from pleurisy.

In the week ending Saturday, October 5, the mortality in thirty-three large English towns, including London (in which the rate was 15.9), was equal to an average annual death-rate of 19.4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18.3 per 1,000. In Glasgow the rate was 18.4, and in Edinburgh it was 16.5.

The average annual death-rate in the sixteen principal town districts of Ireland was 19.4 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2.1 per 1,000, the rates varying from 0.0 in eight of the districts to 5.0 in Waterford—the 10 deaths from all causes registered in that district comprising 1 from enteric fever and 1 from diarrhoea. Among the 105 deaths from all causes registered in Belfast are 4 from scarlatina, 1 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 3 from enteric fever, and 6 from diarrhoea. The 25 deaths in Cork comprise 1 from enteric fever and 1 from diarrhoea. The 12 deaths in Londonderry comprise 1 from scarlatina and 2 from diarrhoea.

In the Dublin Registration District the registered births amounted to 202—116 boys and 86 girls; and the registered deaths to 143—67 males and 76 females.

The deaths, which are 10 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 21.3 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 20.4 per 1,000. During the first forty weeks of the current year the death-rate averaged 29.1, and was 1.8 over the mean rate in the corresponding period of the ten years, 1885-1894.

Only 14 deaths from zymotic diseases were registered, being 13 below the average for the corresponding week of the last ten years, and also 13 under the number for the previous week. They consist of 1 from small-pox—that of a woman aged 32 years, who had been vaccinated—2 from scarlet fever (scarlatina), 1 from influenza, 1 from whooping-cough, 1 from cerebro-spinal meningitis, 2 from infantile cholera, and 6 from diarrhoea. The deaths from

diarrhoea show a decline of 6 as compared with the number for the preceding week, and are also 6 below the average for the 40th week of the last ten years.

Eleven cases of small-pox were admitted to hospital against 2 admissions in the preceding week, and 5 in the week ended 21st September. One small-pox patient was discharged, 1 died, and 27 remained under treatment on Saturday, being 9 over the number in hospital at the close of the preceding week.

The number of cases of enteric fever admitted to hospital was 15, showing a decline of 2 as compared with the admissions in the preceding week. Five patients were discharged, and 79 remained under treatment on Saturday, being 10 over the number in hospital on that day week.

Twenty-one cases of scarlatina were admitted to hospital against 12 in each of the two weeks preceding. Eleven patients were discharged, 1 died, and 87 remained under treatment on Saturday, being 9 over the number in hospital on that day week.

Deaths from diseases of the respiratory system, which had fallen from 22 in the week ended 21st September, to 14 in the following week, rose to 27 or 7 over the average for the corresponding week of the last ten years. The 27 deaths comprise 13 from bronchitis, 8 from pneumonia or inflammation of the lungs, and 1 from croup.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of September, 1895.

Mean Height of Barometer,	-	-	-	30.102 inches.
Maximal Height of Barometer (on 20th, at 9 a.m.),	30.420	"		
Minimal Height of Barometer (on 10th, at 9 p.m.),	29.494	"		
Mean Dry-bulb Temperature,	-	-	-	57.5°.
Mean Wet-bulb Temperature,	-	-	-	55.4°.
Mean Dew-point Temperature,	-	-	-	53.6°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	-	.411 inch.
Mean Humidity,	-	-	-	87.3 per cent.
Highest Temperature in Shade (on 2nd),	-	-	-	72.0°.
Lowest Temperature in Shade (on 22nd),	-	-	-	43.0°.
Lowest Temperature on Grass (Radiation) (on 22nd),	-	-	-	37.0°.
Mean Amount of Cloud,	-	-	-	42.2 per cent.
Rainfall (on 7 days),	-	-	-	.543 inch.
Greatest Daily Rainfall (on 4th),	-	-	-	.184 inch.
General Directions of Wind,	-	-	-	S., S.W., W.

Remarks.

As in both 1893 and 1894, September proved a favourable month throughout. The most remarkable feature in the month was the stability of an anticyclone over Central and Western Europe, while cyclonic conditions held in the far North and North-west, especially at the beginning. The high pressure system was accompanied by clear skies, quiet weather, and at times an extremely large diurnal range of temperature. In France and Germany tropical heat prevailed during the greater part of the month, and in England also the thermometer ranged unprecedentedly high. There were eight days on which the maximum in the shade recorded in London reached or exceeded 80°, the highest reading of all being 86° on the 24th. In Dublin the heat was tempered by a sea breeze, but the amount of bright sunshine was above the average, and the mean amount of cloud was only 42.2 per cent. Towards the close of the month heavy dews and dense night fogs became very prevalent.

The three warmest Septembers experienced in Dublin of late years have been—1865 (M. T. = 61.4°), 1890 (M. T. = 59.6°), and 1895 (M. T. = 59.1°).

In Dublin the arithmetical mean temperature (59.1°) was as much as 3.3° above the average (55.8°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 57.5°. In the thirty years ending with 1894, September was coldest in 1886 and in 1882 (M. T. = 58.0°), and warmest in 1865 (M. T. = 61.4°). In 1880 the M. T. was as high as 58.6°; in 1879 (the “cold year”) it was 54.3°; in 1887, 54.0°; in 1888, 54.4°; in 1889, 55.8°, or exactly the average; in 1890 it was as high as 59.6°; in 1891, it was 57.6°; in 1892, 54.5°; in 1893, 55.9°; and in 1894, 53.8°. So warm a September as that of 1890 had not occurred for a quarter of a century, and this month was only half a degree (0.5°) cooler.

The mean height of the barometer was 30.102 inches, or 0.192 inch above the corrected average value for September—namely, 29.910 inches. The mercury rose to 30.420 inches at 9 a.m. of the 20th, and fell to 29.494 inches at 9 p.m. of the 10th. The observed range of atmospheric pressure was, therefore, .926 inch—that is, a little more than nine-tenths of an inch.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 57.5°, or only 1.3° below the value for August, 1895. Using the formula, $Mean\ Temp. = \frac{Max. + Min.}{2} \times .476$, the mean temperature was 58.7°,

or 3.2° above the average mean temperature for September, calculated in the same way, in the twenty-five years, 1865-89, inclusive (55.5°). The arithmetical mean of the maximal and minimal readings was 59.1° , compared with a twenty-five years' average of 55.8° . On the 2nd the thermometer in the screen rose to 72.0° —wind, S.W.; on the 22nd the temperature fell to 43.0° —wind, calm. The minimum on the grass was 37.0° , also on the 22nd.

The rainfall was only .543 inch, distributed over 7 days—the rainfall and rainy days were thus considerably below the average. The average rainfall for September in the twenty-five years, 1865-89, inclusive, was 2.176 inches, and the average number of rainy days was 14.7. In 1871 the rainfall was very large—4.048 inches on however, only 13 days. On the other hand, in 1865 only .056 inch was measured on but 3 days. In 1888, the rainfall was only .728 inch on 10 days; in 1889, 1.043 inches fell on 13 days; in 1890, 2.469 inches on 14 days; in 1891, 2.132 inches on 18 days; in 1892, 2.631 inches on 19 days; in 1893, .729 inch on 14 days; and in 1894, only .442 inch on 8 days.

High winds were noted on seven days, and attained the force of a gale on two occasions in Dublin—the 10th and 11th. Lightning was seen on the 23rd. The atmosphere was foggy on the 2nd, 15th, 19th, 22nd, 23rd, 24th, 27th, 28th, and 29th.

During the week ended Saturday, the 7th, the weather was fine and hot on the Continent and in the South and East of England until Friday night, changeable in Ireland, Scotland, and the North of Europe generally. The heat became intense in France and Germany in the middle of the week—the thermometer rising in the shade to 94° in Paris on Tuesday, and to 91° in Berlin on Wednesday. On the night of this day a destructive thunderstorm accompanied with torrents of rain and hail (1.18 inches) passed over Lisbon (Portugal). A similar storm occurred on Friday, the rainfall being 1.58 inches. In London the daily maxima were 76° , 80° , 80° , 75° , 74° , and 75° —up to Friday inclusive. In Dublin Sunday and Monday were very fine days—the thermometer rose to 72° on Monday. Then followed a period of changeable, cloudy, and at times rainy weather lasting until Friday. Saturday proved beautifully fine—bright and warm. In the evening a lunar halo was visible. The distribution of atmospheric pressure which determined the weather just described was mainly anticyclonic over France, Germany, and the southern half of England, cyclonic to the northwestward of Ireland, in Scotland, and over Scandinavia. On Tuesday, however, a shallow thunderstorm depression passed

northeastwards from the Bay of Biscay across Southern England to Denmark. It caused severe thunderstorms in England, but very little rain fell. On Friday night and Saturday morning violent thunderstorms and heavy rain prevailed over the S. and E. of England. In Dublin the mean height of the barometer was 29.973 inches, pressure decreasing to 29.819 inches at 9 a.m. of Monday (wind, S.W.), and increasing to 30.183 inches at 9 p.m. of Saturday (wind, W.). The corrected mean temperature was 59.2°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 57.5°. On Monday the screened thermometers rose to 72.0°; on Friday they sank to 50.9°. The rainfall was .476 inch on five days, .184 inch being measured on Wednesday and .180 inch on Monday. The prevalent winds were S.W. and W.

Taken as a whole, the weather of the week ended Saturday, the 14th, was favourable. Until Monday evening an anticyclone stretched from Central Europe across England to the east of Ireland. There was, on Sunday morning, a baric maximum of slightly more than 30.20 inches over the greater part of England, and in that country a complete circulation of light anticyclonic winds existed. In Ireland the wind was moderate from S.S.E. and S. The thermometer rose to 76° in the shade in London and at Loughborough, to 70° at Parsonstown, and to 69° in Dublin. Monday was still warmer—the maxima being 83° in London, 82° at Loughborough, 80° at Oxford, 79° at Liverpool and Cambridge—in Dublin, 72°, the air being close and oppressive in the afternoon. Throughout Tuesday, the barometer fell fast in Ireland and Scotland as a deep depression approached the latter country from W.S.W. The centre of this system passed across the North of Scotland on Wednesday morning, the barometer falling to 28.99 inches at Nairn at 8 a.m. Fresh S.W. to N.W. gales set in on the Irish and British coasts and temperature gave way, with falls of rain or passing showers. By Friday the barometer had entirely recovered from its depression, and another anticyclone was passing eastward over the southern half of the British Islands. At 8 a.m. its centre lay over the extreme S.E. of Ireland, the barometer reading 30.31 inches at Roche's Point, Cork Harbour. Fine, quiet, but at times cloudy weather held to the end of the week. In Dublin the mean height of the barometer was 30.010 inches, pressure ranging from 29.494 inches at 9 p.m. of Tuesday (wind, W.S.W.) to 30.305 inches at 9 p.m. of Saturday (wind, E.). The corrected mean temperature was 58.5°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 57.7°. On Sunday the screened thermometers fell to 48.2°; on Monday they rose to 71.8°. The

prevailing winds were at first S., afterwards W.N.W. Rain fell on two days to the amount of .063 inch, .039 inch being measured on Tuesday. Temperature was very low over Central England on Saturday morning—41° at Loughborough at 8 a.m.

During the week ended Saturday, the 21st, very fine weather prevailed for the most part in Ireland, England, and on the Continent. In Scotland and Scandinavia conditions were unsettled and a good deal of rain fell. At both the beginning and the close of the period an anticyclone of considerable intensity lay over England, Ireland and France. These high-pressure systems were accompanied by fine, quiet, weather—temperature alone being unstable, rising very high by day and falling very low at night. In Paris on Thursday the minimum was 45°, the maximum 83°—range 38°. Heavy dews fell by night, and at times a good deal of fog hung about the coasts. On Tuesday a low pressure area skirted the N.W. of Ireland, passing northeastwards to Scotland and thence travelling eastward to the south of Sweden. This disturbance caused strong and squally S.W. winds as it approached, but in its rear the wind veered to N. and fell light, with a clearing sky. On Thursday much cloud covered England and drizzling rain fell tolerably widely over that country. In Ireland, however, the weather was fair and bright. Friday was brilliantly fine: on the morning of this day the isobar of 30.40 inches embraced the east of Ireland, the Irish Sea, and the central and eastern parts of England. The first frost of the season was reported from Sweden at this time, the thermometer falling to 30° in the screen at Haparanda. At Oxford the thermometer fell to 38° in the screen and to 31° on the grass. Saturday was fine, but cloud increased in Ireland, where the barometer was lower than of Friday. In Dublin the mean atmospheric pressure was 30.286 inches, the extremes being—highest, 30.420 inches at 9 a.m. on Friday (wind, E.N.E.); lowest, 29.959 inches at 9 a.m. of Wednesday (wind, W. by S.). The corrected mean temperature was 57.2°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 56.2°. On Tuesday the thermometer rose to 67.8° in the shade; on Saturday it fell to 46.7°. A slight shower fell on Wednesday afternoon; but it yielded no measurable rainfall. The prevailing wind was westerly.

Splendid weather—dry, bright, and unusually warm—held throughout the week ended Saturday, the 28th. On Monday night, indeed, a severe thunderstorm passed northwards across the centre and west of Ireland from Rothe's Point to Malin Head; but this electric disturbance caused no lasting break in the weather. A large anticyclone hung over Central Europe all through the

period, and, as it were, a wave of high pressure swayed westwards across the British Isles and France from time to time. At the beginning of the week the air was calm and the sky was clear. Hence the diurnal range of temperature was extremely large—even in Dublin on Sunday the thermometer in the screen ranged from 43° to 64° and on Monday from 44° to 67° . But these variations fade into insignificance when compared with those recorded at Loughborough (Leicestershire). At that inland station the diurnal range was on Sunday from 33° to 74° and on Monday from 39° to 81° . On Tuesday the heat in England became intense, the thermometer rising to 86° in London and at Loughborough, and to 84° at Cambridge. Over England, as a whole, the maximum temperature of Monday was from 19° to 18° above the average for September and even this excess was outdone on Tuesday. A light southerly air-current was the bearer of this great heat, which had first shown itself in France. The nights were warm after Monday. A good deal of haze and fog hung about towards the close of the week, especially at the coast stations and over the sea-channels. The highest Irish temperatures recorded were 76° at Parsonstown on Thursday and 77° on Friday. In Dublin the mean height of the barometer was 30.195 inches, pressure falling from 30.305 inches at 9 a.m. of Sunday (wind, S.S.E.), to 30.104 inches at 9 p.m. of Tuesday (wind, S.S.W.), and rising again intermittently to 30.266 inches at 9 a.m. of Saturday (wind, N.). The corrected mean temperature was 60.2° . The mean dry bulb reading at 9 a.m. and 9 p.m. was 58.6° . On Sunday the screened thermometers fell to 43.0° ; on Thursday they rose to 70.8° . The prevalent wind was southerly. No rain fell in Dublin.

Sunday, the 29th, was at first calm, with heavy dew and a dense fog in Dublin. The weather afterwards became brilliant. Monday, the 30th, was also summerlike.

The rainfall in Dublin during the nine months ending September 30th amounted to 20.876 inches on 130 days, compared with 10.968 inches on 112 days during the same period in 1887, 17.992 inches on 131 days in 1888, 19.936 inches on 147 days in 1889, 20.855 inches on 151 days in 1890, 18.020 inches on 135 days in 1891, 19.910 inches on 150 days in 1892, 15.108 inches on 122 days in 1893, 22.301 inches on 156 days in 1894, and a twenty-five years' average of 19.734 inches on 142.8 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in September 1895, was .980 inch distributed over 10 days. Of this quantity .375 inch fell on the 4th, and .370 inch on the 2nd. At

that station the rainfall since January 1, 1895, has been 23.665 inches on 117 days, compared with 23.883 inches on 125 days in the same nine months of 1892, 17.091 inches on 118 days in 1893, and 25.896 inches on 137 days in 1894.

At Cloneevin, Killiney, Co. Dublin, the rainfall in August was 3.85 inches on 24 days (the maximal fall in 24 hours being 1.05 inches on the 10th), compared with a ten years' average of 2.917 inches on 159 days. In September only .81 inch fell at Cloneevin on 7 days. The maximal fall in 24 hours was .34 inch on the 2nd. On an average of ten years the September rainfall at this station has been 1.530 inches on 11.6 days. Since January 1, 1895, 21.58 inches of rain have fallen at Cloneevin on 129 days. The rainfall in the first nine months of 1894 at Cloneevin was 22.92 inches on 150 days.

At Claremont, Carrickmines, Co. Dublin, the rainfall in September was .69 inch on 4 days. At this station 20.86 inches of rain have fallen since January 1.

SCHWENINGERISM.

SCHWENINGER, by the grace of Bismarck, Professor, gives these details of his anti-fat treatment:—" Eat as much as you please as often as you like; but not too much at a meal. Drink no liquid at any meal. When thirsty drink a little good aerated water, with a few drops of lemon or orange juice squeezed into it; but only an hour before or an hour after meals. You may also take a little white wine or cider that is not sweet, or now and then a cup of tea, but never coffee. Smoke a little, and indulge with moderation in the other little luxuries to which you have been accustomed. Bathe often, but do not wet the entire surface of the body at once. Exercise should be regular. Change your position as often as possible. Do not remain standing or sitting or lying too long at a time, nor pass too many hours in bed. Take your meals at a different hour every day. Never eat at regular hours, but whenever you are hungry; and, if it be not too soon before or after a meal, drink whenever you are thirsty. Better eat a dozen times a day than overload your stomach at two or three heavy meals at long intervals. Do not eat the same article of food too often."—*Medical Record.*

ANTISPASMIN.

As a remedy for whooping-cough, Dr. Pruchwald reports strongly in favour of antispasmin in doses of 3 to 5 drops, given four or five times a day.—*Centr. f. d. gem. Ther.*

PERISCOPE.

HISTOPATHOLOGY OF SKIN DISEASES.

DR. NORMAN WALKER, Assistant-Physician for Diseases of the Skin, Royal Infirmary, Edinburgh, has undertaken the translation into English of Dr. Unna's immense German work "Histopathologie der Haut-krankheiten." The translation is expected to be completed next month. We have seen a few specimen pages, and judging from their excellence, we are confident that this edition will be welcomed by all English dermatologists. To have placed in an accessible form, before English readers, the studies of the giant dermatologist, Dr. P. G. Unna, is a work of which Dr. Norman Walker may well be proud. In this English Edition several drawings executed by Dr. Unna will appear, which were not present in the original German edition. The work will be published by Mr. William F. Clay, of Edinburgh.

BIRTH STATISTICS.

IRELAND, which has a marriage rate of only 4.4 per thousand of population, heads the list with an average of 5.46 children to each marriage. If it were not for this high birth-rate, the population of Ireland would probably, in view of the large and constant stream of emigration from it, decrease rapidly. Next in order come all the Australasian colonies, with the exception of Victoria, ranging from New Zealand, with 5.21 children to each marriage, to Queensland with 4.60. Victoria comes modestly after Italy, Scotland, and Holland with 4.20. Scotland shows an average of 4.43, while England does not exceed 4.16. After England come Sweden, Denmark, and France. The last averages only 2.98 children in a family. Thus the largest possible increase in population in France would be small, and allowing for the deaths of children we find that it is almost stationary. Ireland shows almost the lowest record of infantile mortality, New Zealand alone surpassing her. The first year of life is that in which the dangers are greatest, but statistics show that in Ireland barely 10 per cent. of the children die before completing their first year. New Zealand, as we have said, has a better record even than this, the proportion there being 8.74 deaths to every hundred births. England's infant death-rate shows a proportion of 14.92 to the hundred, and Scotland stands midway with 12.20. The German Empire and Austria cut the worst figure in these statistics of infant

mortality. The death-rate there varies from 31.25 per cent. in Wurtemburg to 20.78 in Prussia. Italy is a little worse than Prussia, with 20.79, while Holland is rather better, her ratio standing at 19.32. In Sweden the deaths are comparatively numerous, 13.19 to 100 births; in Norway they are only 10.49. Between the figures of the two Scandinavian countries come those of the Australian colonies, Victoria heading the list with 12.68, and Tasmania ending it with 10.56. Taking the general death-rate, however, the same proportions are not maintained. Reckoning by the excess of births over deaths at all ages, we find Norway and Sweden together at the head of the list with 78 and 75 respectively. England and Scotland stand even closer, the numbers in them being 64 and 63. Ireland comes low down with an excess of only 27.—*The Hospital.*

BRITISH WORKHOUSE HOSPITALS.

MR. ERNEST HART has reprinted, from the *British Medical Journal*, a first series of Reports on Nursing and Administration of Provincial Workhouses and Infirmaries; with an editorial which appeared in the Journal of Aug. 25, 1894. Nine English and two Welsh institutions are reported on. The reports are dismal literature on the whole, but cannot fail to have good effect. Similar investigation into the treatment of the sick in our own workhouses will not be amiss; and we hasten to gratefully acknowledge the spirit in which it has been undertaken by Mr. Hart.

THE JOURNAL OF STATE MEDICINE.

THIS periodical, now in its third volume, is the official organ of the British Institute of Public Health, a society with a roll of 520 Fellows, 180 Members, and 460 Associates. Dr. C. Thresh is the Honorary Editor. The contents of the March number, now before us, will be read with interest—an ingredient of liveliness being supplied by the report, in the Transactions of the Institute, of the "very pretty quarrel as it stands" between the latter and the formidable Mr. Ernest Hart.

ANTI-CHOLERAIC INOCULATION IN INDIA.

HAFFKINE gives in this paper a sketch of the work which he has done in India during 1893 and 1894. After affirming the position of Koch's bacillus as the true cause of cholera, he enumerates the different methods by which experimental infection of men and animals by this organism can be effected, criticises the work of previous experimenters, and points out that his own method gives

a virus capable of protecting animals safely and certainly from all forms of cholera virus fatal to them, and which is perfectly harmless when used on men. Notwithstanding the great difficulties he had to contend against in India, about 50,000 inoculations were made in a great number of different places. The author then summarises the results of those cases which could be watched during epidemic cholera. The operation was absolutely harmless, whether in the presence or absence of cholera. "Summarising the occurrences among the inoculated and uninoculated, and disregarding the question whether they are accidental or not, we have the following results:—Total number of those on whom observations have been made in Calcutta, Gaza, Cawnpore, and Lucknow, is 2,235. Of these were inoculated 500, and 1,735 not inoculated. Inoculated had 21 attacks and 19 died, giving a percentage of cases to total of 4.2 and deaths to total of 3.8 per cent. Uninoculated had 174 attacks and 113 died, giving a percentage of cases to total of 10.63 per cent., and deaths to total of 6.51 per cent. These figures not only show that the inoculations are harmless, but show a difference in the occurrences that, if interpreted, can only be interpreted in favour of the inoculations."—*Indian Medical Gazette*, Jan., 1895.

RHINOPLASTY IN INDIA.

In the *Indian Medico-Chirurgical Review* for January, Mr. T. M. Shaw, L.M., Chief Medical Officer Junagadh State (Bombay), reports that in four years (1885-89), he performed 100 rhinoplastic operations. "In the next five years, 125 more operations were done, and this gives in the first four, as well as latter five years, an average of twenty-five cases a year. Although, as above alluded to, my beginning in this line of surgery at Junagadh arose from the atrocities of the outlaws, the influx of cases has continued long after the outlawry has become extinct, showing that the atrocious spirit of wrathful husbands and others is no less extensive."

RECTO-VAGINAL FISTULA.

THE *Gazette Médicale de Paris* (9 Mar., 1895) reports a paper read before the Société de Chirurgie, by M. Segond, describing a new method of operating in a case of recto-vaginal fistula. We should spoil M. Segond's etiological statement by attempting to translate it:—"Il y a seize ans, une jeune fille s'introduisit, de concert avec une de ses contemporaines, un pot de pommade dans le vagin. La pommade s'écoula, le pot resta. Des deux vierges, l'une mourut bientôt, emportée par une péritonite foudroyante, et l'autre survécut. Même elle se maria et une tolérance parfaite s'établit entre

le mari, le pot de pommade et le vagin. Mais, il y a quelque temps, des accidents graves survinrent ; on fit appeler à trois reprises le docteur Ferrand ; il voulut examiner le malade : mari et femme, tout le monde refusa. Mais, comme les accidents empiraient, celle-ci fit enfin sa confession ; on retira, non sans peine, le pot de pommade ; mais derrière lui des matières fécales étaient accumulées et une large fistule recto-vaginale occupant toute la largeur de la paroi vaginale postérieure s'était établie. On me demanda. Il fallait opérer ; mais que faire ?"

COMPULSORY VACCINATION IN BERNE.

A LAW (says *La Gazette Médicale de Paris*) making vaccination compulsory in the canton of Berne being submitted to referendum was rejected by 24,000 votes to 23,000. Sixty-eight thousand electors expressed no opinion.

GENERAL PARALYSIS.

THE Hospital summarises the results of Dr. Clouston's investigation into the prevalence of general paralysis in Morningside and other Asylums. In 1894, Scotland, with a population of four millions, had 150 cases in her asylums, besides those which were to be found in private practice ; England had 1,400 cases ; "Ireland, with a population equal to that of Scotland, only sent 52 cases." As to causes, the most frequent, according to Dr. Clouston, is alcoholic excess ; next in order being worry, misfortunes, over-work, and, finally, "love and religion."

SYPHILIS IN EUROPEAN ARMIES.

THE following figures, given by the *Gazette des Hôpitaux*, will be found useful :—In 1885, the proportion of those in the German army suffering from syphilitic affections was 29.7 per 1000; Italian army, 86 per 1000; French army, 50.6 per 1000. In 1889, German army, 26.7 per 1000; Austrian army, 65.3 per 1000; Italian army, 99 per 1000; French army, 45.8 per 1000.—*Indian Medico-Chirurgical Review*.

PNEUMONIA IN NEW YORK.

WE are indebted to the *Montreal Medical Journal* for the following figures, showing the increased occurrence and fatality of pneumonia in the city of New York :—In the week ending 26 January 1890 deaths out of 993 (about 1 in 5) were due to this disease. In 1880 the mortality from pneumonia was 1 in 22.8 deaths ; in 1883, 6,487 in 44,486, or 1 in 6.86. The increase coincides with epidemics of influenza.

THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

DECEMBER 2, 1895.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XVIII.—*Injuries of the Thumb.** By EDWARD H. BENNETT, M.D., F.R.C.S.I.; Professor of Surgery in the University of Dublin.

THE dislocations of the thumb, particularly those of the metacarpo-phalangeal joint, have long attracted attention because of the uncertainty that exists as to their pathology and the difficulty so often experienced in their treatment. The dislocations of the metacarpo-phalangeal joint are usually divided into two groups—those in which the phalanx is displaced backwards, and those in which it is displaced forwards—Hey's dislocation and Hey's reversed. In 1888 a lateral dislocation of the phalanx outwards was first described, and to-day I have the good fortune to submit to the Academy an example of complete dislocation of the phalanx inwards.

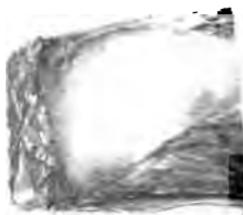
In this city we have the pathology of these injuries illustrated by five specimens—the first, a dried preparation of the skeleton of a hand in which Hey's dislocation exists unreduced, which has been presented to the Royal College of Surgeons by the late Dr. Bevan. The remaining four are specimens, preserved in spirit, which I have obtained from

* Read before the Section of Surgery of the Royal Academy of Medicine in Ireland, May 24, 1895.

the Anatomical Department of Trinity College, and are preserved in its Pathological Museum. Two of these are Hey's dislocation, the third a dislocation forwards, the fourth a complete dislocation of the phalanx inwards.

In order that the details of these specimens may be clearly seen, I propose to project their photographs on the screen. I am indebted to Professor Cunningham, Professor Scott, and Dr. Dixon for the photographs which they have taken for me as I worked along through the examination of these specimens, and I desire to thank these my excellent colleagues for the great help they have given me. The question of the cause of irreducibility in these dislocations is a difficult one to approach; indeed, one author submits that, by a judicious treatment of the subject, "the ten above-mentioned difficulties admit of 1,023 combinations."^a I propose very briefly to submit the views of M. Farabeuf as those most generally accepted in America and on the Continent, and to see how far they fit in with the facts as seen in these unreduced dislocations. The merit of M. Farabeuf's article is its clearness of description and of illustration. There is nothing original in his theory or classification, which are substantially the same as those published by Laurie in 1837. He recognises the following as the varieties of the dorsal dislocation:—1. Dislocation, simple incomplete. 2. Dislocation de Dugès, in which the anterior border of the phalangeal articular surface rests on the dorsal margin of the metacarpal articular surface, the phalanges of the thumb being directed in a line parallel to the axis of the metacarpal. This dislocation was described in 1831 by Dugès from his experience of it in his own person. 3. The dislocation simple complete. 4. The complex dislocation, in which the sesamoid bone attached to the phalanx is turned between the base of the dislocated phalanx and the metacarpal. In the simple dislocation this sesamoid bone rests on the dorsal surface of the metacarpal or on its articular surface, entirely free of the base of the phalanx. The point of greatest practical importance in M. Farabeuf's investigation is that it suggests the active agent in the production of the complex dislocation:—"The active and, as one may call it, the ill-advised agent has

^a Kelly. Dublin Journal of Medical Science. Vol. LXXV.



4.



9.



12.



11.



8.

From Photo's

F. Huth, Lith^r Edin^r

been either the patient himself, or a friend—more often still a medical man, more or less of a surgeon.” In other words, ill-directed efforts to reduce the displaced phalanx by extension which cause the intrusion of the sesamoid with its fibrous surroundings between the phalanx and metacarpal, while they become reversed under the action of the short flexor muscle of the thumb. In M. Farabeuf’s paper the evidence of these details rests chiefly on the examination of experimental dislocations. I propose to see how far they are supported, or the reverse, by these three specimens of old unreduced dislocations. I can present no history of any of these, and so the only fact certain is that they remained unreduced whether they were treated surgically or otherwise. In the dried specimen the soft parts have all been cut away except such as immediately connect the bones, but it is clear that a considerable thickness of firm structure intervenes between them which is composed of the sesamoid bones with their fibrous connections. In a good light it is easy to see the structure of the bones, the internal most directly interposed between the base of the phalanx and the metacarpal. This example is, therefore, one of Farabeuf’s complex dislocations* (Fig. 1). The two specimens I have next to present are both complete dislocations, with the usual external features of the deformity. In one (Figs. 2, 3) the sesamoid is exposed by a section through the dislocated phalanx and its false joint, which is formed with the dorsal surface of the metacarpal, and it can be seen reversed and ankylosed by its palmar surface with the metacarpal, while it forms a socket for the dislocated phalanx. In the other (Figs. 4, 5) the conditions of a complete simple dislocation are present, and the sesamoids are free and are articulated by movable joints with the dorsal surface of the metacarpal in the portion of that surface intervening between the new articulation for the dislocated phalanx and the head of the metacarpal as it projects into the palm. This, according to Farabeuf’s view, should have been a reducible dislocation when recent; in the absence of history this cannot be proved or disproved. It may be, as in the next specimen I have to

* *Dans la luxation au pouce en arrière, la phalanx n'est rien, les os sesamoïdes sont tout !*

present, that treatment of any kind was not adopted while the dislocation was still recent.

The three specimens, then, of unreduced dorsal dislocation are these two complex and one simple. It is difficult to accept as the sole cause of irreducibility the intrusion of the sesamoid and its fibrous surroundings, for this condition is absent in one of my specimens, and in the dislocation forwards irreducibility is not uncommon, while there is no structure corresponding to the ligament and sesamoid present.

My next illustration (Fig. 6) is, from a drawing by Conolly, of an unreduced dislocation of the first phalanx of the thumb forwards, the reverse of Hey's dislocation. The patient was aged seventy-one. Some forty years before the drawing was made he was engaged in grooming his master's horse, when the animal attempted to bite him, and he struck him on the side of his head with the closed hand. He immediately experienced great pain in the thumb, which was at once rendered powerless; great swelling and inflammation followed, and continued with more or less severity for three weeks. He did not apply for any professional aid; and when, at the end of about a month, the swelling had quite subsided, the thumb presented the appearance represented in the drawing. On the dorsum a striking projection is seen formed by the anterior extremity of the metacarpal bone, the articular surface of which can be plainly distinguished; the posterior end of the first phalanx could be felt, forming a tumour in the base of the thumb, but it did not form any visible projection. The axis of the thumb was inclined backwards and inwards, the luxated extremity of the phalanx being directed towards the second metacarpal bone. The thumb was shortened half an inch, slightly rotated inward, and flexed on the metacarpal bone, the phalanges, however, being extended on each other. In this case neglect of treatment explains the unreduced condition of the dislocation. Two similar dislocations, of which I possess casts and complete histories, are of special interest, for in both the reduction failed in spite of the skilled efforts of experienced surgeons (Figs. 7, 8).

Amongst the recorded cases there have been some few which have resisted reduction, but as yet we have not even

a theory to account for this. I regret that I am unable to throw any light on the cause of the non-reduction in the next specimen I present. The hand (Figs. 9, 10) was obtained from the body of a female subject in the dissecting-room, so we know nothing of its history, but the dislocation in all respects repeats the features seen in the previous illustrations. The ungual phalanx is ankylosed to the first, and is nearly in a line with it. There is no evidence of suppuration having occurred either in the immediate neighbourhood of the joint or in any part of the thumb, nor was there any scar present. The dislocated phalanx rests on the palmar aspect of the metacarpal, and has a synovial articulation with it. The short abductor of the thumb is completely atrophied, and contrasts strongly with the short flexor which is firm and normal in colour. The condition of the long flexor tendon is most peculiar—where it lies amongst the fibres of the short flexor it is normal and free in its sheath, but opposite the base of the displaced phalanx it is intimately adherent to its sheath and through this to the dislocated bone. Further on the tendon is again free, of normal colour, and is, as it were, drawn tight beneath the immovably ankylosed joint between the phalanges. Now its adhesions to the base of the dislocated bone are a complete barrier to its reduction, but these adhesions could not have been present until some considerable time after the occurrence of the dislocation. Could they be the result of damage done to the tendon and its sheath at the time of the occurrence of the dislocation? or, again, could they have been the result of attempts made to replace the dislocated bone by direct pressure on its base in a manner similar to the approved mode of effecting reduction in Hey's dislocation. So far our knowledge of the cause, which in certain cases renders these two forms of dislocation irreducible, is not much advanced; the condition of the complex dislocation on the dorsal surface, no doubt, is established, and in it the irreducibility is readily explained. But what renders the palmar dislocation irreducible? Certainly not the intrusion of the sesamoid bones with their fibrous connections, as in the complex dorsal dislocation.

I pass on to the lateral dislocations of the metacarpophalangeal joint. As I have said, in 1888 the only known

example was recorded by Bessel Hagen, of which the following is the history:—

CASE.—A powerful man, twenty-eight years of age, was fighting with a man who seized him by the throat; in trying violently to force himself away, his left hand slipped in a convulsive grasp against the lower jaw bone of his enemy, so that the jaw bone was driven in like a wedge between the thumb and the rest of the four fingers. Instantly the patient felt a violent pain in his thumb, so that he was unable to continue using his hand.

Twelve hours later Bessel Hagen examined him, and found his hand as shown in the plate. A good deal of swelling and a faint bruising showed that the cleft between the thumb and first finger had been deeply damaged, while the interdigital commissure was abnormally displaced forward, and the thumb was nearly $1\frac{1}{2}$ inches shortened. The thumb was opposed to the joint of the phalanx of the index finger. The axis of the first phalanx of the thumb was displaced laterally, so that it formed an obtuse angle with the metacarpal bone, open on the radial side. Thereby it turned towards the centre, not in the region of the metacarpo-phalangeal joint, but turned off sideways outwards nearly to the middle of the metacarpal. Finally the phalanx was turned round lengthways, and the skin of the border of the thenar eminence was thrown into folds. The palpation showed plainly that the head of the metacarpal and the basis of the phalanx of the thumb were in contact. Passive motion only was possible, abnormal ab- and ad-duction could be carried out but with violent pain.

After these clinical appearances it was clear that a complete lateral dislocation outwards of the phalanx existed. The reposition succeeded easily under anaesthesia, by a strong pull to the thumb in the direction of abduction, and a direct pressure on the displaced basis of the phalanx towards the ulnar side. The bone sprang with a clear snap into its proper position. The functions and strength of the joint were perfectly restored in course of time. The explanation of the production of the dislocation is, according to Bessel Hagen, by contraction of the muscles opposite to the first metacarpal bone and the extension of the metacarpo-phalanged joint; combined with the force, the articular part of the last joint acted as a lever in producing the abduction. It is safe to assume, after Bessel Hagen's critical and experimental examination, that both lateral ligaments of the joint were torn, the dorsal as well as the volar part of the joint capsule, and a single pull of the fibres had given the excessive extension. Probably the tear

from the ulnar lateral ligaments went out in a diagonal direction, breaking through the dorsal and volar part of the capsule, without, however, penetrating quite to the radial side. The muscles were simply dislocated. The reposition must fail unless the simple extension and impulsion of the thumb is adopted, so that, in the first place, by a hyper-abduction the relaxation of the strained capsular ligaments must be produced, and by direct pressure of the basis of the phalanx, the hand being fixed.

The last example (Figs. 11, 12) I have to submit presents two rare lesions—1st, a complete dislocation of the base of the first metacarpal bone backwards, and at the distal joint of the metacarpal bone a complete dislocation of the first phalanx inwards. I obtained this example from the body of an aged female subject, supplied for my course of operative surgery, and so know nothing of its history; but, in looking at the hand, one cannot resist the conclusion that a fall, or heavy blow, on the radial border of the thumb, displaced the phalanx laterally, and continuing its action pressed the metacarpal lengthwise, so as to dislocate its base backwards on the trapezium. This complete dislocation is admittedly very rare. Malgaigne says he had seen two, and could discover only two others. The number recorded since Malgaigne wrote has increased, and we find records of two dissections of the old unreduced dislocation such as this. I have already shown that the fracture of the base of the metacarpal bone, which is a common injury, has been confounded with the incomplete dislocation backwards. For fear of any error of this kind, I have made a section with a fine saw through this bone, and have so proved that it is a complete dislocation without fracture of the base of the bone. The dislocation of the phalanx in this specimen is very complete; the base of the displaced bone being applied to the side of the metacarpal and resting on it at a right angle, so that the extremity of the thumb is directed across the hand in the line of the heads of the outer metacarpals.

As I stated in the early part of this paper, I believe this to be the only example of complete internal lateral dislocation yet observed.

ART. XIX.—*The Medicine and Surgery of the Homeric Poems.* By JOHN KNOTT, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dubl.); M.R.C.P.I.; M.R.I.A.; Fellow of the Royal Academy of Medicine in Ireland; Fellow and Examiner (Conj. Sch. with Apothecaries' Hall) Royal College of Surgeons in Ireland, &c.

THE theory and practice of the healing art, as depicted in the verses of the *Iliad* and *Odyssey*, are not, of course, up to date when read by the light of modern science. Notwithstanding this fact, an interesting, and, I venture to think, not unprofitable hour may be occasionally spent in examining those early gropings of the human mind in search of the means of alleviation of the physical ills of its corporal investment. The very humblest of us medical practitioners of the nineteenth century can console himself in a moment of mental depression by the reflection that he possesses a great deal of the most valuable kind of information to which the Prince of Poets was an absolute stranger. If at all possessed with a trace of the veneration for antiquity which has some influence with most men of education and culture, he will derive some passing inspiration from the Homeric allusions to *Æsculapius*, the presiding deity of classical physic. And no physician worthy of his noble calling can, I think, fail to draw some gratification from the fact that in the three volumes which have occupied the foremost place in the development of human thought—the Bible, Homer, and Shakespeare—the calling of the physician is referred to with a greater degree of respect, and with more just appreciation, than in any of the others which have made any considerable contribution to the education of mankind. The fact that Homer has, throughout the course of so many centuries, occupied so proportionally large an area in the field of intellect, should be sufficient claim for at least a passing consideration of the records which he has left us of the practice, in this remote era, of the most benevolent of the professions. It is something that the monarch of verse should have placed the calling of the physician next to that of the poet, in dignity of function and divinity of inspiration. The interesting fact appears that some Homeric notions of anatomy and

surgery were those of Hippocrates centuries afterwards; and this coincidence has given some capable critics an opportunity of expressing the opinion that some of the nuclear ideas of the "Prince of Physicians" were really gathered from the "Prince of Poets." In glancing over the pages of the Iliad and Odyssey for records of the practice of the remote predecessors of Hippocrates, I will keep out of view the terrible Wolffian hypothesis, and disregard the question of whether the authorship was singular or plural. The medicine and surgery of the immortal poems certainly present a sufficient degree of unity to have represented the opinions of a single intellect; and no more expert evidence can be gleaned in this department than would bear out the Yankee version of the disputed authorship: "It has lately been discovered that the Iliad and Odyssey were not really written by Homer, as hitherto believed, but by *another gentleman of the same name.*"

The whole of the Iliad gives a very peculiar prominence to physic; the ideas of healing and curing are kept before the reader almost as continuously as those of the physical force and destruction of life which the poem professedly celebrates. Achilles and Æsculapius were both pupils of Chiron, the Centaur, by whom they were grounded in the fundamental principles of medicine and surgery. So was Hercules. Fancy this trio of medical students! What a pity that history or fable has transmitted no definite account of their curriculum. How interesting it would be to compare it with that of the five-years'-system student of the present day! On the subject of the Homeric knowledge of medical practice we have the following observations from his translator, Alexander Pope:—"As for *Medicine*, something of it must have been understood in that Age, though it was so far from Perfection that (according to *Celsus*) what concern'd Diet was invented long afterwards by *Hippocrates*. The Accidents of Life make the Search after Remedies too indispensible a Duty to be neglected at any time. Accordingly he tells us, that the Ægyptians who had many medicinal Plants in their Countrey, were all Physicians: and, perhaps, he might have learnt his own Skill from his Acquaintance with that Nation. The State of War which Greece had lived in,

requir'd a Knowledge in the healing of Wounds: and this might make him breed his Princes, *Achilles*, *Patroclus*, *Podalirius*, and *Machaon*, to the Science. What *Homer* thus attributes to others he knew himself, and he has given us reason to believe not slightly. For if we consider his insight into the Structure of the human Body, it is so nice, that he has been judg'd to have wounded his Heroes with too much Science: 'Or if we observe his cure of Wounds, which are the Accidents proper to an Epic Poem, we find him directing the Chirurgical Operation, sometimes impressing Lenitives, and at other times filter Powders, when the Effusion of Blood requir'd astringent Qualities.' These observations are appreciative and just. But I will have opportunities, as I proceed, of pointing out that where Pope ventures to criticise the medico-chirurgical knowledge conveyed in the Homeric text, he has succeeded in displaying his own shortcomings in this department of knowledge rather than those of his great model—in other words, that he had better have left it alone.

THE PLAGUE.

The medicine of the *Iliad* begins, we may say, with the beginning—even before the wrath of *Achilles*. As is so very usual in the history of mischief, a woman was at the root of all the harm. This truism is exemplified not only by the history of the siege itself, but by the super-imposed phenomenon of the pestilence which is introduced almost with the beginning of the first book. The direct cause of the sickness in each case was an arrow-wound inflicted by an angry and spiteful Deity of the Grecian ouranology. The time of this pestilence occupies nine of the twenty-and two days of the first book of the *Iliad*. The number *nine* is here placed in the conspicuous position which it has so very usually occupied in the history of the human imagination. Curious are the ideas which have been connected with this number, and the influence it has maintained! I well remember, in my boyish days, a country district in which the principal doctor, when called in to any case of severe injury or of high fever, invariably announced that he could not deliver his "opinion" of the ultimate result till the *ninth* day. Students of the occult sciences hold this number in special reverence at the

present. Even mathematicians recognise that it possesses properties which are shared by no other number. Biblical students have dwelt on the extreme importance which has been assigned to it in the pages of Holy Writ. "It is the *last* of the digits, and thus marks the *end*; and is significant of the *conclusion* of a matter. It is akin to the number *six*, six being the sum of its factors ($3 \times 3 = 9$, and $3 + 3 = 6$), and is thus significant of the *end of man*, and the summation of all man's works. *Nine* is therefore the number of **FINALITY** or **JUDGMENT**.—(Bullinger). This observation has been illustrated by the fact that the *Judgments* of the Almighty are enumerated in *nine* particulars (Haggai i. 11):—

"And I called for a drought upon the land,
 And upon the mountains,
 And upon the corn,
 And upon the new wine,
 And upon the oil,
 And upon *that* which the ground bringeth forth,
 And upon man,
 And upon cattle,
 And upon all the labour of the hands."

And that there were *nine* words derived from the root δίκη (right or judgment) found in the pages of the New Testament: δίκη, δίκαιος, δίκαιόω, δίκαιοσύνη, δίκαιος, δίκαιωμα, δίκαιόστις, δίκαιοτής, δίκαιοκριστα. The gifts of the Spirit (1 Cor. xii. 8–10) are *nine* in number; the fruit of the Spirit comprises *nine* graces; several remarkable works connected with the idea of judgment occur *nine* times, and so on. "Enough has been said to show that the signification of the number *nine* is *judgment*, especially divine judgment, and the conclusion of the whole matter so far as *man* is concerned." And firmly and surely enough has the number *nine* held its own in the history of the various superstitions and mysticisms. In the Pythagorean system, man is a full chord, composed of eight notes, and the deity follows, represented by *nine*—the trinity of trinities. The *nine* deities of the old Etrurian mythology (recalled to the modern English reader by the oath which Macaulay puts in the mouth of Lars Porsena), the *nine* Nagas of Southern Indian worship, the *nine* Muses of

the Greeks and Romans, the *nine* Earths of the Scandinavian mythology, the *nine* Heavens of Mohammed—and of Dante, the *nine* rivers of Hell of the older Roman mythology, the *nine* orders of Angels of the more modern, the *nine* days' floating of Deucalion's ark, the *nine* days' fall of Vulcan from Olympus to the isle of Lemnos, the *nine* heads of Hydra, the trivial fact that it requires *nine* tailors to make *one* man, the well-known truism of natural history that a cat possesses *nine* lives, and the modern use of the cruel and vulgar "Cat-o'-nine-tails" are a few testimonials from the numberless ones which give evidence of the influence which the sacred number **NINE** has held over the human mind in the course of the ages.

Homer's pestilence was a *nine-day* plague:—

Ἐγνῆμαρ μὲν ἀνὰ στρατοῦ φέντο κῆλα θεῖαι.

—*Iliad* I., 53.

There is no difficulty in understanding an outbreak of pestilential fever in the Grecian camp, with the concomitant conditions—heat, crowding, and decomposition of dead bodies. The special skill and instinctive knowledge of the poet are displayed in his making this infliction an emanation of the vengeance of Apollo—

θεῖος Ἀπόλλων

Ἐζεῖτ' ἐπειτ' ἀπάντεις τεῖν, μετὰ δὲ τὸν ἔργον
Δευτὴ δε κλαγγὴ γένεται ἀργυρέων βιοῖα.
Οὐρῆς μὲν πρῶτον ἐπέφθετο, καὶ κύνας ἀργυρός.
Ἄτταρ ἐπειτ' αὐτοῖσι βέλος ἔχεστεκὲς ἐφίεις,
Βάλλει: αὐτὸς δὲ πυραὶ τεκνῶν καλούστος βαρεσταῖ.

—*Pl.*, 43—52.

The five latter lines, with that first quoted, are thus Englished by Pope:—

The Fleet in View, he twang'd his deadly Bow,
And hissing fly the feather'd Fates below.
On Mules and Dogs th' Infection first began,
And last, the vengeful Arrows fix'd in Man.
For nine long Nights, thro' all the dusky Air
The fires thick-flaming shot a dismal Glare.

And in a less reverential strain by the anonymous author of the *Burlesque Translation* :—

When he came near he slack'd his pace,
Till he had found a proper place
To maul the shabby dogs, then whang
His bowstring rattle'd with a twang.
He first began with dogs and mules,
But quickly pelted knaves and fools.
Nine nights he never went to sleep,
But knock'd them down like rotten sheep.

Dacier, in his notes on the *Ars Poetica* of Aristotle, calls special attention to the order in which the victims of this plague of Apollo were attacked, and points out its similarity to the method of Jehovah in dealing with the refractory Egyptians—in which the horses, asses, &c., were first smitten, and afterwards the men themselves. Some commentators have explained this arrangement by a partial kindness of the Deity, in sending some premonitory afflictions upon the lower animals, and thereby giving the real offenders timely warning of a similar fate, if they did not ward off the threatened evils by repentance and retribution.

The close similarity of the views of Hippocrates and of Homer in this connection has been pointed out by Spondanus, who wishes to explain it by the suggestion that the physician borrowed his pathology from the inspired poet. In his observations on epidemics, the Father of Medicine specially notes two things—that their cause is in the air, and that different animals are more or less susceptible to them, according to their individual natures, or the kind of aliment on which they subsist. In the Homeric instance now under consideration, the cause is in the air—the darts of Apollo, the beams of the sun. Then the mules and dogs are attacked before the men; and this is explained by the fact that those animals have a more delicate sense of smell, by which the infection is sooner perceived and absorbed; and by their method of feeding—by biting the grass from the earth with their heads in close contact with the latter, which necessitates the ready absorption of any impure exhalations which arise from it. “Thus has *Hippocrates* so long after *Homer* writ, subscrib'd to his Knowledge in the Rise and Progress of this Distemper.”

(To be continued.)

ART. XX.—*The Infectious Hospitals (Dublin) Scheme.** By J. W. MOORE, M.D., Univ. Dubl.; F.R.C.P.I.; Ex-Scholar and Diplomate in State Medicine, Trin. Coll. Dubl.

IN introducing to the notice of the Royal Academy of Medicine in Ireland the draft Scheme, prepared by the Superintendent Medical Officer of Health of the City of Dublin, "for the formation of a Board for establishing Hospitals for Infective Diseases in the County Dublin," I may be allowed to express my surprise and regret that, before launching his scheme and submitting it to the public, Sir Charles A. Cameron did not think it advisable—not to say expedient—to take his own profession more fully into his confidence in a matter which involved so many professional as well as public interests.

It has been the custom for the State to consult the Royal College of Physicians of Ireland and the Royal College of Surgeons in Ireland whenever any grave topic affecting the Public Health has been under consideration. Surely, then, the Superintendent Medical Officer of Health might well have sought the opinion of the Royal Colleges upon a hospital scheme which, if carried out, was bound to have a far-reaching influence upon Medical Education in Dublin, no matter what its effect upon the Public Health might be.

Sir Charles Cameron has rightly or wrongly decided otherwise, and therefore he cannot, and should not, complain, if his scheme is fated to be severely handled in the searching criticism to which it is bound to be exposed.

Perhaps it will be most convenient in the first place to point out the salient features of the "scheme."

1. An Act of Parliament is to be obtained to establish and incorporate a Board of Governors—40 in number—having control over "hospitals for small-pox and other infectious diseases," the area under the jurisdiction of the Board being practically the County of Dublin (including the City itself).

* Read at a meeting of the combined Sections of Medicine and State Medicine of the Royal Academy of Medicine in Ireland, on Friday, November 15th, 1895. [For the discussion on this paper see page 541.]

2. "The Board shall consist of Governors, nominated as follows:—8 by the Corporation; 10 by the South Dublin Union; 8 by the North Dublin Union; 2 by the Rathdown Union; 2 each by the Rathmines, Pembroke, and Kingstown Commissioners; and 1 each by the Blackrock, Dalkey, Killiney, Drumcondra, Clontarf, and Kilmainham Commissioners."
3. All the ordinary expenses of the Board are to be provided out of the Poor's Rate; but the Board "shall be empowered to borrow money for the purpose of procuring a site or sites, erecting and equipping hospitals and convalescent houses for infectious cases." "The cost of procuring sites, the erection and furnishing of buildings, the maintenance of medical and nursing staffs, shall be charged *pro rata* to each of the electoral divisions of the three Unions" co-operating in the scheme, that is, "the South and North Dublin Unions, and so much of Rathdown Union as is situated within the County of Dublin."
4. The appointment of all officials—including Medical Officers—shall vest in the Board.
5. The exercise of all the powers possessed by the Board, except that of contracting for the erection of buildings or for supplies of articles to the hospitals, may be entrusted by the Board to a Committee, or Committees, consisting of their own members.
6. "The Board shall have power to purchase compulsorily such lands as they may require for the erection of hospitals for patients or convalescents; of disinfecting houses, and for all requisite purposes."
7. "Admission to the Board's hospitals shall not be considered as tending to pauperise the persons admitted." "No charge is to be made for treatment in the Board's hospitals; but the Board may make a reasonable charge for the use of separate rooms and special attendance for patients."
8. Patients may be admitted into the hospitals of the

Board from outside their district, but in all such cases a reasonable charge for the accommodation shall be made.

9. "The Local Government Board shall have the power to constitute the Board a Sanitary Authority during the prevalence of an epidemic."
10. Various sanitary powers at present vested in sanitary authorities under the Public Health (Ireland) Act, 1878, shall be entrusted to the Board.
11. The Board may make by-laws, to be approved by the Local Government Board, breaches of such by-laws to be punished by a fine not exceeding £5.
12. The Board shall be authorised to pay clergymen for spiritual ministration to the patients.

The foregoing may, I think, be taken as a fair epitome of the twenty-eight clauses which make up the scheme. In criticising it, I propose to show that—

1. It is unnecessary.
2. It is inexpedient.
3. It would injure medical teaching in Dublin.
4. It would probably turn out a costly failure.

I. THE SCHEME IS UNNECESSARY.

Subject to correction by legal experts, I maintain that, in all essential particulars, Parliamentary powers already exist for carrying into effect the chief provisions of the scheme. The Public Health (Ireland) Act, 1878, Sections 137 to 148 inclusive, grapples effectually with the question of infectious diseases and provisions against infection. The prevention of the spread of infectious diseases is provided for in Sections 149 to 156 inclusive. It is true that the last-named sections require to be put in force by an order of the Local Government Board, but once in force they are comprehensive enough for all purposes.

Few will assert that the existing provisions in Dublin and its vicinity for coping with an outbreak and epidemic of small-pox like that of 1894-1895 are adequate or safe. For many years an urgent necessity has existed for the establishment of Convalescent Homes for patients recovering from

infectious diseases, and of refuges for the temporary reception of the inmates of houses in which infection has appeared.

But all these defects can be remedied, all these wants can be supplied by enforcing the provisions of Sections 149 and 155 of the Public Health Act.

Listen to the wording of these sections:—

“149. Whenever any part of Ireland appears to be threatened with or is affected by any formidable epidemic, endemic, or infectious disease, the Local Government Board may make, and from time to time alter or revoke, regulations for all or any of the following purposes; namely,

- “(1) For the speedy interment of the dead; and
- “(2) For house to house visitation;
- “(3) For the provision of medical aid and *hospital accommodation*; and
- “(4) For the promotion of cleansing, ventilation, and disinfection, and *for guarding against the spread of disease; &c.*”

Surely in this section “Hospital Accommodation” includes “Convalescent Homes,” as it does specifically in Section 155, to be presently quoted. And, again, the providing of refuges or shelters for persons exposed to infection is certainly a most effectual measure “for guarding against the spread of disease,” and therefore the section may be construed as authorising the provision of such refuges or shelters.

“155. Any sanitary authority may, with the sanction of the Local Government Board, provide for the use of the inhabitants of its district hospitals or temporary places, for the reception of the *sick or convalescent*, and for that purpose may itself build such hospitals or *places of reception*,” &c. This is tolerably explicit, anyone would think.

Then Section 153 provides that “The Local Government Board may, if they think fit, by order authorise or require *any two or more boards of guardians to act together* for the purposes of the provisions of this Act relating to prevention of epidemic disease, and may prescribe the mode of such joint action and *of defraying the costs thereof*.”

It may be objected that the combination for the prevention of epidemic disease provided in Section 153 is limited to “boards of guardians.” But Section 12 authorises the

Local Government Board, by provisional order, to form any sanitary districts, irrespective of kind or number, into an united district for procuring a common supply of water, or for making a system of sewerage, or for any other purposes of this Act, on the application of the sanitary authorities of such districts and after due inquiry.

And then as to "*the purchase and taking of lands otherwise than by agreement*" "*for the purposes of this Act*," Section 203 contains all requisite regulations, the "Land Clauses Acts" being incorporated with the "Public Health Act" for the purpose.

All this looks to me very like Sir Charles Cameron's scheme, ready, cut and dry, without the necessity of going to Parliament at all. But, apart from the legal question, is a gigantic scheme, such as that now proposed, really required in the interest of the Public Health? And here I have to complain of disingenuousness on the part of the promoters or advocates of the scheme. We are told that, in Dublin, almost alone of all the great cities of the United Kingdom, fever cases are treated in the general hospitals, that "in the metropolitan area of London, with a population of four millions, none of the hospitals treating infectious cases were in the city, but were erected under the most favourable topographical conditions that could be obtained." These are Sir Charles Cameron's words as reported in the *Daily Express* of October 11, 1895. In the same newspaper Mr. Antony Roche is reported to have said that "there was not a single case of small-pox treated in the city of London. Every case was sent 14 miles down the Thames. Sixteen thousand cases were so sent down, and the report as to these was that not a single one of these suffered from being sent that distance."

Now, surely Sir Charles Cameron is well aware that the London Fever Hospital stands in Liverpool-road, Islington. It is at least a mile and a-quarter from the open country, whereas Cork-street Hospital and the Hardwicke Hospital are not one-third of that distance from the open country. I doubt not Sir Charles is perfectly familiar with the situation of the various Metropolitan Asylums Board's Hospitals, on which praise has been of late so freely lavished to the

disadvantage of our Dublin Epidemic Hospitals. I take the list of these hospitals and their localities from *Burdett's Hospital and Charities Annual*, 1895, (pages 316, 317). They are:

Eastern Fever Hospital, The Grove, Homerton, E.

Fountain Fever Hospital, Lower Tooting.

Gore Farm Hospital, near Dartford, Kent. (For convalescent small-pox and fever patients.)

North-Eastern Hospital, St. Ann's Road, N.

Northern Fever Hospital, Winchmore Hill, N. (This is a Fever Convalescent Hospital.)

North-Western Hospital, Haverstock Hill, N.W.

South-Eastern Fever Hospital, New Cross, S.E.

South-Western Fever Hospital, Stockwell, S.W.

Western Fever Hospital, Fulham, S.W.

Small-pox Hospital Ships, Long Reach, near Dartford, Kent, containing 300 beds.

Now all these hospitals, except the Gore Farm Convalescent Home, and the Dartford Hospital Ships, are within the "inner London" district—that is, they are situated in populous localities. Mr. Roche's statement that every case of small-pox was sent 14 miles down the Thames will surely need some qualification when we read in the Registrar-General's Weekly Returns for August of the present year that, "according to returns from the Metropolitan Asylum and London Fever Hospitals and from the Highgate Small-pox Hospital," there were 336 cases of small-pox under treatment in these hospitals on Saturday, August 17, 357 cases on August 24, 341 on August 31, and 328 on September 7. Mr. Burdett tells us that the Small-pox Hospital Ships at Dartford contain 300 beds, so that, even supposing these beds were all filled on August 24, 57 small-pox patients must have been under treatment in either the Highgate Small-pox and Vaccination Hospital, or one of the Metropolitan Asylums Board's hospitals, which I have named above. I may add that about one-tenth of the beds at St. Thomas's Hospital are set apart for the treatment of "infectious cases" (52 out of 569 beds). (Burdett).

It is contended that Dublin is unique in having fever blocks attached to the general hospitals, and that these fever

blocks are a menace to the public health. Let us consider these points for a moment. The case of Dublin is not comparable with that of any other large town in the United Kingdom. In Dublin there are as many as ten general hospitals, and only one of these—the Mater Misericordiae—can be looked upon as a *large* hospital in the ordinary acceptation of the term. On the other hand, in Belfast and in the large towns of both England and Scotland, the general hospitals are few in number and contain many beds. The Royal Hospital, Belfast, contains 189 beds. The Royal Infirmary, Edinburgh, has 780 beds; the Royal Infirmary, Glasgow, 582 beds; the Western Infirmary, Glasgow, 400 beds; Manchester Royal Infirmary, 298 beds; Leeds General Infirmary, 894 beds; Liverpool Royal Infirmary, 295 beds; Liverpool Royal Southern Hospital, 200 beds, and so on. Now, I am not defending the Dublin system—rather do I condemn it as wasteful, and tending to retard medical progress. But the hard, the stubborn fact remains—this system, however objectionable it may be, exists; and to abolish it would be infinitely costly, while the substitution of two great infirmaries would be most difficult to effect, because of the multifarious vested interests involved. Theoretically, I am in favour of a great reform which would give Dublin two large, fully-equipped, and richly-endowed Royal Infirmaries in lieu of the many existing hospitals, and two Epidemic Hospitals on the same scale instead of the present fever hospitals and fever wings of the general hospitals. But to carry out such a scheme would entail an expenditure of probably a million of money sterling by the time vested interests were provided for, sites procured, buildings erected, and the management in working order.

Setting aside so great a scheme then, I ask—Are we prepared to cripple the teaching power of the existing clinical hospitals in Dublin by excluding fever cases from their precincts on the ground that infection spreads from the epidemic blocks to the main hospital buildings? Is this allegation proved? My long experience convinces me that such an occurrence is altogether exceptional—so exceptional as to warrant us in altogether discounting it in practice. I believe it is true that scarlet fever or measles has now and again

broken out in the wards of our general hospitals, but such an accident has happened twice within the past few weeks in two general hospitals in Dublin, which have no fever wings, so, at all events, I am informed. How this is brought about is easily understood when it is remembered that every second day or so crowds of visitors throng the wards. Then, if an epidemic is rife in the population at large, it is apt to be introduced into a hospital on visiting days.

II. THE SCHEME IS INEXPEDIENT.

Dublin is unique not only in possessing many general hospitals, but also in receiving an annual grant from the Imperial Parliament, in aid of the funds of those hospitals. This grant amounts to £15,850 per annum. It is distributed as follows :—

House of Industry Hospitals	-	-	£7,600
Steevens' Hospital	-	-	1,300
The Meath	-	-	600
Rotunda Lying-in Hospital	-	-	700
The Coombe Lying-in Hospital	-	-	200
The Westmoreland Lock Hospital	-	-	2,600
Cork-street Fever Hospital	-	-	2,500
St. Mark's Ophthalmic Hospital	-	-	100
The Royal Hospital for Incurables	-	-	250
			<hr/>
			£15,850

In a letter to the *Lancet*, dated November 2, 1895, Sir Charles Cameron somewhat apologetically states that in the draft scheme no reference is made to the existing Dublin Hospitals, and that a motion made at the Conference to consider the question of the public money grants made to them, was spoken against by him and was rejected. But Sir Charles will scarcely deny that this question was *directly* raised at that Conference by more than one speaker, and that it was bound to be raised *indirectly* sooner or later in connection with his scheme.

For example, I ask is it at all likely that this large Parliamentary grant of some £16,000 a year will be continued if a Hospital Bill should be laid before Parliament? There is no precedent for such a grant, in the first place;

and again, if fever is no longer treated in the Hardwicke or, Steevens' or the Meath—not to mention Cork-street Hospital—one chief claim of these institutions upon the liberality of Parliament will be entirely forfeited.

But the scheme is inexpedient from another point of view—that of the Public Health. The Council of the Dublin Sanitary Association have very pertinently shown that the dislike of patients to go, and of parents to send their children, to hospitals situated at a distance and specifically called "isolation" or "fever hospitals," would lead to concealment of infectious disease and its consequent spread in the homes of the poorer classes. The editors of the *Lancet*, in commenting upon the views of the Council of the Dublin Sanitary Association, think that this objection is "one which carries but little weight." In a letter addressed to the editors and which was published in the *Lancet* of November 2, I say: "I cannot doubt that this is really your deliberate opinion, but possibly your experience lies among the Anglo-Saxon rather than among the Irish poor. For thirteen years I acted as physician to Cork-street Fever Hospital; for more than twenty years I have been physician to the Meath Hospital, and from this experience I emphatically dissent from your conclusion. The lower orders among an Irish population dread the very name of a Fever Hospital, and the difficulty of inducing parents to send their sick children to hospital is enormously increased when the order is for a fever hospital, and not for the fever wing of a general hospital. I gladly accord my tribute of praise to the present resident medical officers of the Cork-street Fever Hospital for the manner in which, by tact and kindness, they have within recent years succeeded in making that institution comparatively popular; but Dr. J. Marshall Day and his colleagues will, if I mistake not, bear me out in what I have stated."

III. THE SCHEME WOULD INJURE MEDICAL TEACHING IN DUBLIN.

The editors of the *Lancet*, in the article to which I have already alluded, observe:—"The third objection to the scheme which has been formulated is to the effect that the

proposed scheme would very injuriously affect the interests of the Medical School of Dublin by interfering with the teaching of the infectious fevers and of their treatment by the clinical physicians of the city, and that in this manner obstacles would be thrown in the way of students. This, we frankly admit, is a real objection. The removal of the infectious fevers from the London general hospitals has tended in the same direction; and in order to meet it as far as possible it has become necessary to require, as a condition to admission for examination for a diploma to practise, that every student should have had special tuition in this respect in a hospital especially set apart for the reception of fever cases. But the difficulty is not one which applies to Dublin alone, and we may be certain that the physicians and teachers in the London hospitals would never have consented to *the removal from their hospitals of the majority of the fevers, so necessary for teaching purposes*, had there not been some altogether overwhelming reason for submitting to it. That such reason existed is perfectly well known, and it is highly probable that its application is by no means limited to the English metropolis. . . . The only question is whether, in Dublin as elsewhere, the evil of reducing facilities for clinical teaching is not more than compensated for by advantages to the public and to other hospital patients, and whether it cannot be made good by other teaching arrangements."

Now, in reply to all this, I venture to point out that hardly one of the London hospitals has any considerable air-space, or "lung," around it, within the limits of which a detached fever wing could be built. and, as a matter of fact, no such fever wings exist, except, I believe, at St. Thomas's Hospital. Therefore, it was in London really a question of treating fevers actually in the general hospitals or excluding them altogether. In Dublin, on the other hand, most of the hospitals stand on their own grounds, which are more or less extensive, and so permit of the erection of detached fever-blocks at a fair distance from the main buildings.

But, further, surely it was a smaller sacrifice for a London clinical hospital with an average of 401 beds to give up its fever-beds, than it would be for a Dublin clinical hospital

with its average of 168 beds, *including* those intended for fever cases, to close the latter?

LONDON.	DUBLIN.
Charing Cross	175
Guy's	600
King's College	217
London	776
Middlesex	321
Univ. College	208
St. Bartholomew's	745
St. George's	351
St. Mary's	281
St. Thomas's	569
Westminster	205
<hr/>	
	4,448
<hr/>	
	1,683

Both the Lord Mayor of Dublin and Mr. Beardwood, the Chairman of the Public Health Committee of the Corporation of this city, have, during this controversy, ventured to assert that the opposition to the Infectious Hospitals Scheme has originated with the medical profession, that it is an interested opposition, and shall not therefore be taken into account. I tell these gentlemen that even if the opposition to the scheme had come from the medical profession alone it should command the respectful attention of the most enthusiastic sanitary reformers. There is a great medical school in Dublin. It has been estimated that it is worth £100,000 a year to the citizens. Many causes have combined within recent years to lessen the number of the students of that school. Let us not imperil its very existence. It would be bad enough to substitute salaried medical officers for the independent clinical physicians who at present attend fever cases in the epidemic wings of the general hospitals. It would be nothing short of a disaster to the public as well as to the profession if medical students were discouraged from studying fevers by such a change of teachers and by the removal to a distance of their "fever cases." The proposed epidemic hospital, or hospitals, will be in the "County Dublin." How are students to attend at a distance from

their medical school and general hospital? Both time and money will fail them, and so they will not learn fever and its treatment.

At another time and in another place I wrote:—"It has always seemed to me that each individual case of fever presented to the attending physician or to the clinical student an epitome of the Principles and Practice of Medicine 'Fever,' said Fordyce, nearly a century ago, 'is a disease which affects the whole system; it affects the head, trunk and extremities; it affects the circulation, absorption, and the nervous system; it affects the body, and it affects the mind; it is, therefore, a disease of the whole system, in the fullest sense of the term.' This being so, we surely are in a position to study diseases of the three great cavities of the body, diseases of the circulation, of the lymphatic, digestive, and nervous systems in an individual case of fever. If our object is—as it should be—to accurately gauge the state of our fever patient, we cannot attain this end by a mere superficial examination. On the contrary, every known method of physical examination must be applied, and this, too, as regards every system of the body in rotation. In a word, there is no other disease which demands on the part of the physician a closer and more intelligent observation, a more minute and searching physical examination, a more subtle and refined train of reasoning, a more careful weighing of evidence for or against, and a more conscientious and painstaking management from start to finish. It is therefore plain that in future a personal study of fever will be an indispensable part of medical education."

IV. THE SCHEME WOULD PROBABLY TURN OUT A COSTLY FAILURE.

It is really almost superfluous to discuss this point with the history of this ill-fated scheme before us. *It has already proved a failure, and to the reputation of its promoters a costly failure.* At a meeting held on October 10, and presided over by the Lord Mayor of Dublin, its provisions were explained to representatives of the public bodies concerned; all of whom were very careful to make it perfectly clear that they were present to hear, but not to vote for or against, the scheme. They went to the meeting invested with neither power nor

authority by the bodies of which they were delegates. Several of these bodies have since that meeting considered the scheme and repudiated it. The Board of Guardians of the Rathdown Union *have refused to co-operate in any way in the scheme.* The South Dublin Union Board of Guardians have thrown cold water upon it. The Kingstown Township Commissioners have decided to take no further action with reference to it. The Commissioners of the important and wealthy Pembroke Township do not approve the scheme, and have refused to send representatives to serve on a sub-committee appointed to carry out details. Thus one-half of the "County Dublin" has already declared itself dead against the scheme, which is a "City of Dublin" scheme from beginning to end.

But the *coup de grace* has been given by the infanticidal hand of Sir Charles Cameron himself. At the weekly meeting of the Board of Guardians of the South Dublin Union, on Thursday, November 7th, the Clerk read the following remarkable letter from Sir Charles Cameron:—

"I would like to point out that the promoters of the scheme for establishing an isolated hospital had no intention whatever to interfere with existing hospitals or the grants made to them. Their principal objects—were (1) The establishment of a convalescent home for patients recovering, or recently recovered, from infectious diseases ; (2) to provide proper accommodation for smallpox patients. The recent epidemic shows that there is not at present proper accommodation for such patients, and there are few who will be disposed to dissent when I say that the precincts of a workhouse are not the proper place in which convalescents from smallpox should be located. Many persons of most respectable positions in society were reluctantly obliged to go into the workhouse sheds set apart for smallpox cases last year. I trust that in the interests of the public your Board will appoint two delegates to consider this important subject at the next conference in relation to it which may be held. It is, perhaps, right to point out that the Corporation have the power to establish themselves smallpox hospitals and convalescent homes for infectious cases."

Furthermore, in his letter to the *Lancet*, which I have already quoted, Sir Charles says that, at the conference on October 10, "it was distinctly stated that the scheme could

be modified in any way provided that provisions were made in it for establishing one or more hospitals for small-pox and a home for convalescents from infectious diseases outside the city."

If this is Sir Charles's present attitude in regard to his scheme, we may well say:—"Much cry and little wool."—

"*Parturiunt montes, nascetur ridiculus mus.*"

According to the views expressed in these letters the proposed scheme "would, in effect"—to adopt the words of the Council of the Dublin Sanitary Association—"have reference to one disease only, and that a disease absolutely controllable by periodical vaccination." At the meeting on October 10, the Lord Mayor expressed his opinion that the up-keep of the proposed infectious (smallpox) hospital would cost £10,000 a year, and that to it the Government grant "might be transferred." At the same meeting Mr. Kelly said he thought that "one large hospital would be unsuitable, as great difficulty and danger would be experienced in removing patients from outlying districts north and south of Dublin. *The whole scheme was too ambitious, and must fall necessarily by its own weight.*" He believed he was speaking the opinion of the small community he represented (Blackrock) when he said that they to a man would oppose the scheme, even irrespective of the further taxation which would be its inevitable result.

Such was the temper in which the scheme was received on its *début*. Is it any wonder that its promoters are already "drawing in their horns," and that the scheme itself may be registered as "still-born?"

To sum up:—While I entirely disapprove the draft scheme prepared by the Superintendent Medical Officer of Health on the grounds that it is unnecessary, inexpedient, calculated to damage the Medical School of Dublin, and likely to prove a costly failure, I freely admit that the accommodation for small-pox patients in the late epidemic was neither adequate nor safe. Again, for twenty years I have been advocating the provision of refuges, or temporary habitations, for the reception of the inmates of houses in which infectious disease has broken out, and of convalescent homes for those recovering.

from infectious diseases. So far I am heartily in accord with Sir Charles Cameron.

Let then the Urban and Rural Sanitary Authorities of the Dublin Metropolitan District combine under Sections 12, 149, and 155 of the Public Health (Ireland) Act, 1878 (41 and 42 Vic., Cap. 52), to carry out these needed sanitary reforms. But let us have no attempt at Parliamentary legislation, which is unnecessary, and no scheme like that proposed—a scheme revolutionary, cumbrous, unwieldy, unpractical, and unworkable, which in one short fortnight was spurned by half the people who were to work it.

ART. XXI.—*On the Isolation of Fever Patients.*^a By Sir CHARLES A. CAMERON, Professor of Hygiene, R.C.S.I.; Chief Medical Officer of Health for Dublin.

IT is admitted that some infective diseases, such as small-pox, scarlet fever, and typhus fever, are propagated through the medium of infected air. It is evident, therefore, that persons suffering from such diseases should be kept as far apart from healthy persons as circumstances admit of. The *matrices morbi* of these maladies consist of solid bodies, which, though capable of being blown about in the atmosphere, ultimately settle upon the ground, floors, shelves, walls, animals, and, in a word, on the surface of things generally. If they settle upon our clothes, the latter may convey them to great distances; and if persons reside close to the place where a small-pox or typhus fever patient is located, the air itself may waft the poison of the disease directly from the sick to the sound.

The precautions taken in modern times to reduce the points of contact between fever patients and healthy persons have been a potent factor in reducing the zymotic death-rate; and have done almost as much in that direction as have these general hygienic measures for the prevention of disease so largely adopted within the last thirty years.

The combined efforts of medical and non-medical men in

^a Read at a meeting of the combined Sections of Medicine and State Medicine of the Royal Academy of Medicine in Ireland, on Friday, November 15th, 1895. [For the discussion on this paper see page 541.]

the departments of Preventive Medicine and Public Hygiene have largely reduced the death-rate in these countries. As might be expected, these efforts have produced a greater effect as regards zymotic diseases than in relation to other maladies. In the period 1876-1880 the zymotic death-rate in the large English and Welsh towns was 3.8 per 1,000 persons living, whilst the death-rate from all other causes was 21 per 1,000. In the following decade the zymotic death-rate declined to 3.1 per 1,000, being 18.4 per cent. less than in the previous five years; whilst the death-rate from all other causes fell to 19.85, or 5.5 per cent. less than in the previous five years. In the four years ended in 1894 the zymotic death-rate was 2.66, and the death-rate from all other causes 18.31, showing a decline of 14.2 per cent. of the former and 7.7 per cent. of the latter, as compared with the previous ten years.

In Dublin the greater decrease in the zymotic death-rate, as compared with the decrease in the general mortality, is still more striking. In the ten years ended in 1890 the zymotic death-rate was 44.05 per cent. less than in the previous ten years, whilst the decrease in the number of deaths from all causes was only 15.59 per cent. In the five years ended in 1880 the zymotic death-rate was 5.1 per 1,000 persons living, whilst the death-rate from all other causes was 27.5. In the four years ended in 1894 the zymotic death-rate was 2.55, or 50 per cent. less than in the five years 1876-80, whilst the death-rate* from all other causes was 23.37, or 15 per cent. less.

These statistics seem to prove the possibility of the extinction of the principal zymotic diseases. If the term "preventable," which is sometimes applied to them, be a true one, then we are not irrational in our attempts to prevent their occurrence.

It must be admitted that the great decrease in the mortality caused by fevers is largely due to the enlightened action of bodies composed almost wholly of non-medical men. Our sanitary laws are the work of the Legislature, and the enormous sums which have been expended on the improved

* The total death-rate for English towns is corrected for age and sex distribution; but these corrections have not been applied to the Dublin deaths.

sanitation of towns have been voted by Municipal Authorities. The medical profession have played a useful and noble part in suggesting means for the prevention of disease; and to the action of the Medical Officers of Health of the eastern English ports we are, almost to a certainty, indebted for our immunity from Asiatic cholera during its two latest invasions of Europe. The English Medical Officers of Health have also rendered great service to the public by their persistent efforts to secure properly isolated hospitals exclusively for infectious cases. In 1891 Dr. Thorne Thorne, now Medical Officer of the English Local Government Board, called attention to the remarkable increase in the provision by Sanitary Authorities of hospitals for fever patients. From 1879 to 1891 £450,000 had been expended in the erection of these hospitals, and it was estimated that there were at least 400 of them in existence. The Corporation of Belfast have just resolved to provide an hospital of the kind outside their city, and at an expense of £70,000.

Dublin has a reputation as a great seat of medical education, and its physicians have done much to enlarge the boundaries of the domain of medicine; but I do not think that we can boast of any superiority in our hospital system. It must be admitted that the number of hospitals in relation to population is far greater than in probably any city in the world. Still I do not consider this is a fact much to be deplored. Every hospital has a large committee, whose efforts to maintain its efficiency and resources are incessant, and generally successful. If, instead of a dozen hospitals, we had only two, it is doubtful whether or not their income would be as great as the total incomes of the dozen hospitals. The great defect in the system is the treatment of the highly-contagious fevers in the general hospitals. In addition to two special fever hospitals, there are fever departments in six general hospitals and in one private hospital. I cannot understand how anyone claiming to be a sanitarian can approve of the treatment of the highly-contagious fevers at nine different points in a comparatively small city such as Dublin is.

We have a great maternity—the Rotunda Hospital—which for more than a century has been a model for the

world to imitate. I fear it must be admitted that this is the only one of our hospitals which can justly claim a superiority over others. I trust that the day will come when our general hospitals will, like those on the other side of the Channel, refuse to admit small-pox, scarlet fever, typhus fever, and perhaps measles. When they have come to this conclusion, they will have removed what Mr. Burdett terms the great blot on the Dublin hospital system.

The only excuse that can be properly made for the reception of fever cases in general hospitals is the want of a special fever hospital; but no such excuse can be urged in Dublin, for there have long been two fever hospitals in this city. Such being the case, there was no necessity for treating fever in other hospitals. It seems to me that Cork-street Hospital should have been more liberally supported by the people of Dublin. Originally in a thinly-populated district, it was placed under conditions something like those now insisted upon in the case of isolation hospitals; now it is surrounded by dwelling-houses. It is to be regretted that the authorities of this hospital—which has done right good work—were not enabled long ago to have acquired a considerable area of the ground surrounding it, and upon part of which dwelling-houses have been recently erected. Hemmed in by houses, it can no longer be regarded as a thoroughly isolated hospital—certainly not so far as small-pox is concerned. As it is, Cork-street Hospital is the best place we have in Dublin for fever cases, as it receives no other kind, and has still some open space surrounding it.

We have in the Hardwicke our second fever hospital. It is quite unsuited for the reception of small-pox cases; and even as an hospital for scarlet fever and typhus fever, it cannot for a moment be compared with the vast majority of similar hospitals in England and Scotland.

I am aware that many physicians believe that there is sufficient reason for having fever wards in general hospitals; but I challenge them to cite a single author on hospital management, or on public hygiene, in support of their belief. To a certain extent the authorities of the Dublin general hospitals acknowledge the desirability of isolating fever patients, as some of them have removed their fever wards.

to detached buildings, which are, however, too close to the main buildings. They are under the control of the general hospital administration; the same physicians and students who attend the wards in which non-infectious cases are treated visit the fever wards. It is not to be expected that the nurses in the detached building keep apart from those who attend in the main building. The pupil who at 10 o'clock a.m. may be standing over a typhus fever patient, may, an hour later, be witnessing an operation in the surgical theatre.

In the ideal hospital for infectious maladies, the physician's clothes are changed before he leaves it; so, also, are those of the pupils, officers, nurses and attendants. They wash the portions of their body exposed to the infected air. The visitor is covered with an ample cloak, and is told not to enter a public conveyance immediately after leaving the hospital. The goods for the hospital are received at the porter's lodge. The hospital is surrounded by spacious grounds, and is not nearer than 150 feet from the public road. The *dejecta* of the patients are destroyed by fire, or sterilised by high-pressure steam. Is the fever department of a Dublin hospital placed under these conditions?

The recent epidemic of small-pox—of which we may expect a recrudescence very soon—showed up our weakness as regards isolation hospitals. Cork-street and the Hardwicke proved insufficient to accommodate the patients, and it was found necessary to remove the less acute cases to huts situated within the precincts of the Workhouse. There was no proper convalescent home in which those recovered from the disease, but still possibly not free from infection, could be accommodated. Many of the patients went into the Workhouse under protest. We cannot wonder that they should object to be treated as if they were paupers.

The recent epidemic of small-pox found us very badly equipped to meet it clinically. The Public Health Committee, early in the epidemic, pressed the Boards of Guardians to erect temporary hospitals in isolated positions; but nothing was done in that direction until the disease had firmly established itself. Cork-street and Hardwicke Hospitals had to be used. Both were completely filled with patients;

and then, tardily, the South Dublin Union provided huts close to the Workhouse, into which at once a large number of the less acute cases and some convalescents were drafted from the hospitals. On the 7th of January, 1895, there were 122 small-pox cases in the Hardwicke, 153 in Cork-street, and 61 in the Workhouse Sheds—total, 324. On the 19th of the same month there were 51 cases in the Hardwicke, 154 in Cork-street, and 154 in the Workhouse. The sheds at the latter place were very defective; but those erected at a later period were much better.

As regards situation, the sheds were in a somewhat better position than Cork-street Hospital, and the latter than the Hardwicke. The two last named hospitals are quite close to public thoroughfares. Let us see what is the opinion of eminent authorities as regards the situation of a small-pox hospital. Dr. Wynter Blyth, in his work on Public Health, says that they should be a mile distant from dwellings. Dr. Priestley, Medical Officer of Health for Leicester, demonstrated, in 1893, that the Leicester small-pox hospital, though 620 feet distant from the nearest house, spread the disease, and he recommended that the hospital should be removed “as far away as possible from the town and its inhabitants.” Dr. C. E. Matthews, Superintendent of the small-pox hospital at Gore Farm, considers that 1,000 feet are the limits of the aerial infection of small-pox; but this estimate has been questioned. Dr. Stafford, Medical Inspector of the Irish Local Government, has published in the last Annual Report of the Board very striking English statistics, showing that small-pox hospitals spread the disease unless they are thoroughly isolated and well managed.

If hospitals are likely to spread small-pox unless they are placed under proper conditions, I cannot see why they should not spread typhus fever, scarlet fever and measles, which are acknowledged to be propagated through the air, and by the medium of clothes, &c. I admit that small-pox virus travels through greater distances, and that the influence of hospitals in spreading this disease has been far more clearly proved than is the case with respect to other zymotic diseases. It is, therefore, not so necessary to place ordinary fever hospitals very remote from towns; but still they should be

separate hospitals, and have ample space around them. Dr. Wynter Blyth, in his work on Public Health, quotes with approval the summary made by Dr. Thorne Thorne, the present Medical Officer of the English Local Government Board, of the opinions of eminent physicians and epidemiologists, such as Dr. Bristowe, as to the means of preventing contagion. He says:—

“The first principle to be laid down is the absolute necessity of buildings set apart for small-pox, scarlet and other infectious fevers. A Sanitary Authority not providing facilities for isolation, has failed to fulfil one of the great purposes for which it was instituted. The second principle is, that the construction of such hospitals is best carried out with deliberation in non-epidemic times, experience having demonstrated that those which have been hastily run up, to meet a sudden emergency, have provided accommodation of a most indifferent kind, have failed to meet the permanent want of a district, and the cost has been, in relation to usefulness, large. The third principle is, that small-pox hospitals should be at least a mile from inhabited dwellings.”

Dr. John W. Mason, Medical Officer of Health for Hull, and physician to the fever hospital—one of the ablest sanitarians in England—says that the number of patients in a fever hospital should not exceed 20 per acre. What general hospital in Dublin gives an acre to 20 of its fever patients? He states that each zymotic disease should be treated in a building aërially distinct from every other.

No stronger condemnation of the system of having fever departments in general hospitals could be made than that passed on it by one of the most eminent physicians and sanitarians of these countries—Dr. Grimshaw, Registrar-General, and the present President of the Royal College of Physicians of Ireland. Dr. Grimshaw writes:—

“I have already shown that we have abundance of general hospital accommodation for both our pauper and our artisan classes. I think we may say we have ample accommodation for lying-in women. We have, I believe, an insufficient amount of accommodation for infective fevers, and not only is what we have insufficient, but some of it is, I believe, of a character unsuitable for the patients, and dangerous to the community at large. Fever hospital accommodation, as it is popularly called,

requires to be provided in great institutions : each form of fever having its specially isolated wards. A good many of these conditions are fulfilled at Cork-street and the Hardwicke Fever Hospitals ; but, I am sorry to say, a system is still in existence of providing fever wards in connection with our general hospitals—a system which, I think, cannot be too strongly condemned. Every fever hospital is a danger to its neighbours, and no matter what precautions may be taken, it cannot be denied that each fever hospital, or fever ward of a general hospital, is a focus from which fevers may spread to the neighbourhood. There is no doubt that fever has spread from fever wards in general hospitals to the general medical and surgical wards. No matter how perfect the rules, or how well organised the supervision, or how efficient the management, we may at any time be at the mercy of a careless or ignorant person, who may be but temporarily in the employment of the best managed institution.

“ It is essential to safety that well regulated and well isolated hospitals for the treatment of infective diseases should exist in every district, and that all attempts to deal with these forms of disease in general hospitals should be abandoned. A recent investigation by the Medical Department of the Local Government Board of England proves to demonstration the risks attendant on the proximity to a small-pox hospital. The alarm raised by the establishment of small-pox hospitals in populous neighbourhoods led to an inquiry, which has been carried out in the London District by Mr. Power, one of the Inspectors of the Medical Department of the Local Government Board of England, the general result of which is stated as follows by Dr. Buchanan, the Medical Officer of the Local Government Board of England :—

“ But they need only be studied by the light of the Fulham experiences to give a presumption (apart from any afforded by any local health officers' reports) that those experiences of Fulham have been repeated at Hampstead, at Homerton, at Stockwell, and at Deptford, at each epidemic period—a presumption, namely, that small-pox infection has habitually been distributed from each of those hospitals over considerable areas, most conspicuously at the commencement of epidemic periods ; with a further presumption that this distribution has greatly influenced the small-pox mortality of whole registration districts ; while incidental illustrations are not wanting of peculiar excess in the incidence of small-pox upon portions of districts nearest to the several hospitals. As regards the method of dispersion, Mr. Power (without considering it in terms) supplies me with reasons for believing that to

whatever degree limitations in number of patients, and improvements in administration and in ambulance service, may have operated to reduce the danger of small-pox hospitals to their neighbours, these changes have had but a partial result ; and a hypothesis of atmospheric convection over considerable distances is wanted, not for Fulham alone, but for London generally, in order to explain the observed behaviour of small-pox in the several districts of the metropolis.'

" This then points to risks which I firmly believe are not confined to small-pox, but are in a more or less degree attendant on all forms of infective disease, and which will become increased in proportion to the number of centres of contagion established. I believe it will be found necessary to be much more careful than we have hitherto been in selecting sites for our fever hospitals, and in effectually providing against their becoming centres of infection and promoting disease in one place, while preventing it in another. We must have ample space around our epidemic hospitals, plenty of accommodation for our convalescents ; we must intercept and disinfect our sewage ; and from the evidence recently obtained in London, it seems necessary to disinfect the air which escapes through the hospital ventilators, before we again allow it to be inhaled by healthy people. The latter may seem an extreme hygiene expedient ; but I believe we have evidence now before us which shows that such precautions cannot be disregarded."

' It has been said that the establishment of special hospitals for fever would greatly interfere with medical education in Dublin. This is a new idea. Has Cork-street Fever Hospital retarded medical education ? No one ever said that it did. It seems to be taken for granted that the scheme for establishing isolation hospitals contemplates putting them many miles outside the city. No such intention was in the minds of the promoters of the scheme. The hospitals were to be outside the city, but close to it, and with ample space surrounding them. The small-pox hospital need not be more than one mile distant from the Circular-road.

To my mind the present hospital system in Dublin is unfavourable to the study of fever. The cases are treated in nine hospitals, and, with the exception of the special hospitals, there cannot be very many cases in any one of the hospitals. The proper thing would be for the pupil, in his fifth year, to devote himself to the study of fever in a large special hospital such as Cork-street, containing, perhaps, ten times the num-

ber of patients treated in his general hospital. In the latter he would have in his earlier years the opportunity of the clinical study of enteric fever and pneumonia. It seems to me highly desirable that, whilst occupied in the study of the highly contagious fevers, the pupil should keep apart from the general hospital.

An exaggerated notion of the expense of establishing isolation hospitals prevails. The fever hospital, a mile outside Newcastle, cost, including everything, £26,662; it stands on 11 acres, and contains 105 beds. Nottingham fever hospital cost £25,000; its grounds comprise 12½ acres, and it has 140 beds. The fever hospital, situated more than a mile outside Hull, cost only £15,000; it stands on 7½ acres, and contains 150 beds. The usual estimate as to the accommodation which should be afforded in fever hospitals is one bed per 1,000 of the inhabitants of the district using the hospital. As Dublin City has a population of 245,000, 245 beds are required, according to the above estimate; but as there are no fewer than eleven hospitals in which enteric fever and pneumonia are, and might continue to be, treated, one or two isolation hospitals, having 140 beds, would suffice for this city.

During the ten years ended in 1894, there were on the average, in the last week in June, the following numbers of patients suffering from fevers in the principal Dublin hospitals:—

Measles	...	...	...	31
Scarlet Fever	...	...	...	31
Typhus Fever	...	...	...	6
Enteric Fever	...	...	...	28
Pneumonia	...	...	...	13
				—
	Total	...		109

In the same period, but in the last week of the year, there were:—

Measles	...	...	...	11
Scarlet Fever	...	...	...	47
Typhus Fever	...	...	...	10
Enteric Fever	...	...	...	75
Pneumonia	...	...	...	13
	—			
	Total,	...		156

TABLE.—Number of Cases of Infectious Diseases in the Principal Dublin Hospitals in the Last Weeks in June and December in each year—1885 to 1894.

LAST WEEK IN JUNE.												
Diseases	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	Mean 1885-94	
Measles	-	6	16	56	18	6	56	7	130	0	21	31·1
Scarlet fever	-	47	64	14	9	1	20	38	34	49	35	31·1
Typhus	-	0	5	4	5	3	7	10	5	6	16	6·1
Enteric	-	57	30	89	34	89	30	17	11	15	8	28·0
Pneumonia	-	21	20	23	11	18	5	8	9	8	10	12·8
Total,	-	131	135	136	72	62	118	80	189	78	90	109·1
Enteric fever and pneumonia	-	78	50	62	45	52	85	25	20	23	18	40·8
Measles, scarlet fever, typhus fever	-	53	85	74	27	10	88	55	169	55	73	68·3
LAST WEEK IN DECEMBER.												
Diseases	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	Mean 1885-94	
Measles	-	1	57	9	8	9	9	5	18	0	0	11·1
Scarlet Fever	-	79	98	15	9	2	8	29	77	186	22	47·0
Typhus	-	1	7	2	5	16	15	4	20	10	16	9·6
Enteric	-	67	76	161	115	70	108	64	17	88	29	74·5
Pneumonia	-	9	24	25	28	13	8	5	6	5	10	13·3
Total	-	157	257	212	160	110	148	107	188	189	77	155·5
Enteric fever and pneumonia	-	76	100	186	148	88	116	69	28	43	39	87·8
Measles, scarlet fever, typhus fever	-	81	157	26	17	27	82	88	115	146	38	67·7

If we omit enteric fever and pneumonia, the principal Dublin hospitals contained, on the average, 68 fever patients in the last week in June, and the same number in the last week in December. The maximal number of patients in the last week of June or December, in the above-mentioned ten years, was, excluding enteric and pneumonia cases, 169, of which 130 were measles cases.

In these statistics no reference is made to small-pox, which disease should be treated in a special hospital.

When Dublin is supplied with proper isolation hospitals for the treatment of the more contagious fevers, with a special hospital for small-pox, and with a home for convalescents recovering from fever, than we may feel that Mr. Burdett can no longer point to a great blot on our system of tending the sick.

CACTUS GRANDIFLORUS.

DR. ULIKHAILOFF, in an elaborate article on the therapeutic properties of cactus grandiflorus, draws the following conclusions:—
(1) Cactus grandiflorus produces a well-marked elevation of blood pressure. (2) The increase in blood pressure rapidly lessens on the discontinuance of the drug. (3) It has a well-marked diuretic action. (4) In cases of cardiac palpitation, associated with asthma, its effects are good when given in full doses. (5) On the unpleasant subjective sensations in cases of goitre its effects are very beneficial.—*Pharm. Zeitschrift*, No. 29.

ANAL FISSURE.

FOR the relief of painful anal fissure, Dr. Aaler recommends the following ointment: R.—Extract of hemlock, 5 grammes; castor oil, 15 grammes; lanoline, 30 grammes—f^t. ungt. To be applied to the anus after each action of the bowel.—*Ther. Mnish.*

OXIDE OF COPPER AS A VERMIFUGE.

DR. SCHMIDT prescribes the following as a vermifuge: R.—Black oxide of copper, 6 grammes; prepared chalk, 2 grammes; argil, 12 grammes; glycerine, 10 grammes. Make into 120 pills. Two pills to be taken four times a day for the first week, and three pills to be taken four times a day during the second week.—*Wien. med. Pr.*, No. 20.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Twentieth Century Practice: an International Encyclopaedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L. STEEDMAN, M.D., New York City. In Twenty Volumes. Volume I.: Diseases of the Uropoietic System; Vol. II. Nutritive Disorders; Vol. III.: Occupation Diseases, Drug-Habits, and Poisons. London: Sampson Low, Marston & Company, Limited, Dunstan's House, Fetter-lane, Fleet-street, E.C. 1895. 8vo. Pp. 737, 739, 639.

THE first instalment of this gigantic literary undertaking now lies before us in the form of three bulky octavo volumes, each containing some 700 pages. The work is sufficiently ambitious both in its title and in its scope—"Twentieth Century Practice;" when according to many competent authorities more than five years must still elapse ere we cross the threshold of the new century! An "International Encyclopaedia of Modern Medical Science" which is to occupy twenty volumes, each of some seven hundred large octavo pages!! Such is the great task which the courteous and untiring editor, Dr. Thomas L. Stedman, of New York, has with light heart undertaken.

The modest Preface to this great work occupies rather less than a single page of letterpress. We make bold to congratulate Dr. Stedman on this literary achievement, which inspires the belief that his editorial task will be efficiently and well performed.

In justification for the publication of this encyclopaedic work, the editor points out that it is not too much to say that a new era of Medicine has begun, one in which the rational treatment of disease engages the best thought of the best workers, supplementing, while not supplanting,

the study of pathological anatomy by which the preceding era was characterised. "The science of medicine has been in great part recast—the time has now arrived for it to be rewritten. To this end the co-operation of many recognised authorities in Europe and America has been secured, the results of whose labors will be presented in the successive volumes of this series."

It has been usual for authors to begin their treatises on Medicine with an account of the infectious diseases. In "*Twentieth Century Practice*" this custom is departed from. Dr. Stedman reminds us that "within but little over a decade a new science has arisen and a new theory of infectious diseases has been established." In consequence, "it has been thought best to reserve the consideration of infectious diseases for the later volumes, in the hope that by the time they are published a solution of some of the problems in the pathogenesis and therapy of these affections, as yet but partially worked out, will have been reached." This is reasonable and wise.

We notice that the preface is dated January 30, 1895, while three volumes have in all been published. We may take it, then, that the work will issue from the press at the rate of 3 or 4 volumes a year, so that the twentieth century will indeed be dawning when the editor's task will be drawing to a close. He has our best wishes for the successful accomplishment of his undertaking, of which so promising an instalment is in our hands.

Volume I. treats of Diseases of the Uropoietic System. Dr. Francis Delafield, of New York, contributes the first article on diseases of the kidneys. Mr. Reginald Harrison, of London, writes on surgical diseases of the kidneys and of the ureters, as well as on diseases of the bladder. An article on diseases of the prostate, and another on diseases of the male urethra, are from the pen of Dr. G. Frank Lydston, of Chicago. Mr. E. Hurry Fenwick, of London, discusses diseases of the urine, and Dr. Howard A. Kelly, Professor of Gynaecology and Obstetrics in the Johns Hopkins University, Baltimore, treats of diseases of the female bladder and urethra. Some "overlapping" is to be observed, but it was unavoidable from the very nature of

the case. For example, Dr. Delafield describes sarcoma and adenoma of the kidney, and Mr. Reginald Harrison traverses the same ground when discussing renal tumours. Dr. Delafield's article is illustrated by twenty-six figures representing microscopic sections of variously-diseased kidneys. We think it is a pity that he should have weighted his otherwise excellent article by including eleven different classifications of diseases of the kidney, in addition to the one which he himself proposes and describes.

When speaking of the treatment of hypertrophy of the prostate Dr. Lydston sensibly refers to castration in the following paragraph:—

“The most recent operation for the relief of enlarged prostate, castration, seems to be meeting with some success. The author has had no experience with it, but it is worth consideration *provided the patient's virility has disappeared*, otherwise it is better to construct an artificial suprapubic urethra, with or without operation on the prostate proper. *Castration is an operation not to be lightly undertaken*, as certain historical medico-legal cases have shown. Should future experience demonstrate that it is frequently successful, *the surgeon should still exercise the greatest circumspection in the performance of this operation*. A patient who appears perfectly reconciled to the loss of his testes may subsequently look at the matter in a different light. There is a suggestion of grim humor in the new procedure; the oophorectomy craze of the recent past is still a vivid recollection” (page 423).

We have been tempted to italicise some of these words of wisdom, which exactly represent the views we have ourselves been disposed to adopt concerning this method of treating hypertrophied prostate.

The contributors to the second volume are Dr. Dujardin-Beaumetz, of Paris; Sir Dyce Duckworth, Dr. Archibald E. Garrod and Dr. Thomas J. MacLagan, of London; Dr. Henry M. Lyman, of Chicago; Dr. Carl H. von Noorden, of Frankfort-on-the-Main; and Dr. Max J. Oertel, of Munich.

Sir Dyce Duckworth gives us an excellent account of Addison's Disease and other diseases of the adrenal bodies. Dr. von Noorden follows with a long and able treatise on

diabetes mellitus, in which, by the way, the metric system of weights and measures is exclusively used. Appended to the article is a very full bibliography, which has evidently been compiled with great care.

Next comes a monograph on rheumatism, running to 141 pages, from the master-hand of Dr. MacLagan. Rejecting the lactic acid and neurotic theories of rheumatism, the author declares his belief that the rheumatic poison is malarial in nature. "If it be so," he says, "it is a minute parasitic organism whose morbid action like that of other malarial poisons, is dependent on its growth and reproduction in the system. Like other allied poisons it is sure to require, in virtue of its parasitic nature, a special nidus for its reproduction and action. This nidus it finds in the human bodies." (Page 228.)

As was to be expected, the treatment of acute rheumatism by the salicyl compounds is fully discussed by Dr. MacLagan, whose name is so honourably associated with this method. The most interesting section of his very able communication is probably that in which he investigates the action of the salicyl compounds in the heart-complications of rheumatism. "The question," he says, "has naturally two aspects—a prophylactic and a curative: 1. Do the salicyl compounds tend to prevent heart complications in acute rheumatism? 2. Do they have a curative action on these after they have occurred?"

Dr. MacLagan answers the first question in the affirmative, provided the treatment is begun early and carried out with promptitude and decision—"thirty grains [of salicin or salicylic acid] should be given every hour till the temperature is normal and pain gone." As regards the second question, experience has shown that under the salicyl treatment, as under all other, rheumatic endocarditis is apt to leave some trace behind.

Dr. MacLagan's observations on hyperpyrexia in acute rheumatism and on the relation of rheumatism and chorea are well worthy of an attentive study. "Rheumatism" he writes, "is essentially a disease of the motor apparatus; chorea is essentially a disease of the motor centres. In this broad pathological statement we have the clue to the

explanation of the relation of the two diseases." (Page 326).

Dr. Lyman's long and very able article on gout is disfigured by a wrong derivation in its opening sentence. The author says: "In the writings of Hippocrates and Aretaeus, gout is known as *ἀρθρίτις*, a term derived from *ἀρθρόν*, a joint, and *ίτις* inflammation." Now, in the first place, there is no such Greek word as *ίτις*, and in the next place, *ἀρθρίτις*, is an adjective, as if the feminine form of *ἀρθρίτης*, which does not occur, meaning *belonging to the joints*. '*Η ἀρθρίτις* (sc. *νόσος*) is really "the joint disease." The expression *ἀρθρίτις φλεγμονή* also occurs, meaning "a fiery heat of the joints," that is "inflammation of the joints." While on this topic, we may be allowed to express our opinion that a much neater and more distinct Greek type might have been selected by the publishers for use both here and elsewhere, so that, in fact, we cannot offer our congratulations on either their or Dr. Lyman's "Twentieth Century" Greek.

The third article of the trilogy is on *arthritis deformans*, from the pen of Dr. Archibald E. Garrod. He tells us practically everything about a disease, or groups of diseases, which will always possess an added interest for Irish physicians and surgeons because of the association with it of the honoured names of Robert Adams and Robert Smith.

The concluding articles in this volume are on "Diseases of the Muscles," by Dr. Dujardin-Beaumetz, and on "Obesity," by Dr. M. J. Oertel.

The contents of the third volume are rather of the nature of an *olla podrida*. They are in sequence—alcoholism and drug habits, shock and collapse, sea sickness, mountain sickness, osteomalacia, heat-stroke, frost-bite, the diseases of occupations, and poisoning. The article on *Alcoholism and Drug Habits*, by Dr. Norman Kerr, of London, occupies 171 pages. The evils of indulgence are painted in graphic colours by Dr. Kerr. Speaking of chronic alcoholism, he says of the heart—"The heart is riddled with degenerated fat, hypertrophied, weak, and flabby, with incapability of any but slight exertion by reason of palpitations, dyspnoea, painful stitches, and

precordial anguish. This vital organ, from the tremendous overtaxing to which it has long been subjected, four ounces of alcohol (in brandy) having been shown by Parkes and Wollowicz to have caused 12,960 additional pulsations in twenty-four hours (equivalent to a strong young soldier of twenty-six years lifting 15½ tons daily one foot high), is shorn of the greater part of its normal strength and power." (Page 35.)

We agree with the writer that the treatment of alcoholism "should involve unconditional disuse of all alcoholic intoxicants. That in itself will alleviate most cases, and on that basis alone can any hope of cure be fairly entertained. The alcohol should be at once withheld, and there should be no compromise with the patient on this point. The writer has never seen any injury resulting from this 'heroic step.' 'Tapering off' is inadmissible with alcohol, though generally the better course with opiates."

Dr. Norman Kerr has enriched (?) the English language with some extraordinarily cacophonic words such as "opiumism" (page 81), "arsenicism" (page 104), "chloroformism" (page 92), and "etherism" (page 95). "Cannabinism" (page 88) runs the risk of being confounded with "cannibalism." But Dr. Kerr, when speaking of "ginger, eau-de-cologne, and lavender inebriety" (page 67), has not ventured to write "gingerism," "eau-de-cognism," and "lavenderism."

Dr. George F. Shrady, of New York, writes on shock and collapse—shock being described as shock proper, or torpid shock; collapse as shock with excitement or erethistic shock. He quotes Sir William "M'Cormack" instead of "MacCormac." Very interesting articles are those on sea sickness, heat-stroke, and frost-bite, by Dr. Albert L. Gihon, Medical Director of the U. S. Navy. "Naupathia" is the name for sea sickness which he prefers for purposes of international medical statistical nomenclature, but he mentions that Irwin proposes *Kinetia* as a more rational term, since it includes all other similar forms of motion-sickness.

Hofrath Georg Freiherr von Liebig, M.D., of the University of Munich, contributes a valuable article on mountain sickness, to which a bibliography is appended, based largely upon Dr. Conrad Meyer-Ahren's work,

"Die Bergkrankheit" (Leipzig, 1854), and upon Paul Bert's "La Pression barométrique" (Paris, 1878).

"Osteomalacia" is described by Dr. William T. Councilman, of Boston, Shattuck Professor of Pathological Anatomy in the Medical Department of Harvard University. One of the most elaborate monographs in the volume is that by Dr. James Hendrie Lloyd, of Philadelphia, on the diseases of occupations. It runs to 186 pages. The last two articles are on "Poisoning" by vegetable poisons, by Dr. Beaumont Small, of Ottawa, and on "Poisoning" from lead, arsenic, zinc, copper, mercury, silver, and phosphorus, by Dr. James Stewart, of Montreal. Dr. Small's article is illustrated by a series of 35 wood-cuts, which are somewhat rough but true to nature.

The many excellencies of the three volumes before us make us await with keen interest the appearance of future instalments of this great international work, which cannot fail to have a far-reaching influence upon medical thought and practice in many lands, and indeed in both hemispheres.

A History of Epidemics in Britain. By CHARLES CREIGHTON, M.A., M.D.; Formerly Demonstrator of Anatomy in the University of Cambridge. Volume II: From the Extinction of the Plague to the Present Time. Cambridge: At the University Press. 1894. Pp. 883.

THIS volume is one of the greatest monuments of industry and research that we have met with. Although, as Dr. Creighton says, the history of epidemics had not received much attention, and consequently he has had but little help in his work from former writers, nevertheless, with untiring industry he has consulted old authors without number, both medical and historical, and has made the volume before us a truly complete account of the subject.

The work is divided into nine chapters, which treat of Typhus and other Continued Fevers; Fever and Dysentery in Ireland; Influenzas and Epidemic Agues; Small-pox; Measles; Whooping-cough; Scarlatina and Diphtheria; Diarrhoea and Dysentery; and Asiatic Cholera. Each

chapter is complete in itself, and gives a full account of the history of the disease in question; numbers of quotations from old authors and many tables of mortality are introduced.

It is impossible to give anything like a general account of such a work. We can only refer to a few points. The most interesting feature of this work is the description it gives of the rise and fall of diseases. The first of these referred to is the Plague. It had been the grand infective disease of Britain from 1348 till 1666. In seeking for the causes of its decline and extinction, we must, says Dr. Creighton, keep prominently in view the fact that the virus was brought into the country from abroad. He believes the virus of plague had its habitat in the soil from which it rose in emanations, and that the immense mortalities caused by each epidemic preserved the seeds or the crude matters of the disease in the soil. Buried plague-bodies would be the most obvious source of future plagues, but also the products of ordinary cadaveric decomposition would be so much nutriment for the continuance of the virus. He believes that the practice of burying the dead in coffins had a great deal to do with the extinction of the plague, by interfering with the pabulum whence the virus derived its strength.

Dr. Creighton gives a long account of influenza. He discusses the pathology of this disease, holding that it is caused by some telluric emanations, and points out that in many cases earthquakes have had some relation to epidemics. Here, as elsewhere, we find him in many ways out of sympathy with the germ-theories of disease. Influenza, Dr. Creighton says, in the earlier part of the period he treats of, cannot be separated from epidemic agues. Accordingly these two diseases are, to a considerable extent, mixed up in the same chapter.

Dr. Creighton's views concerning the aetiology of typhoid fever shows also his sympathies with miasmatic exhalations: "While the more or less steady or endemic prevalence of typhoid fever is due to the formation and reproduction in the soil of an infective principal (probably of faecal origin), which affects more or less sporadically the individual living thereon, after the manner of a miasma arising from the ground, there have been some hardly disputable instances of the infection

being conveyed to many at once from a single source in the drinking water, and in the medium of milk. But such instances, suggestive though they may be, and easy of apprehension by the laity, must not be understood as giving the rule for the bulk of enteric fever. In like manner the escape or reflux of excremental gases from pipes or sewers, or the leakage into basements or foundations from faulty plumber-work, are causes, real no doubt, but of limited application, which do not conflict with, as they do not supersede, the more comprehensive and cognate explanation of enteric fever as an infection having its habitat in the soil, and an incidence upon individuals after the manner of other miasmatic infections."

Dr. Creighton regards diphtheria as perhaps the most obscure and complex of all the infective diseases in its causes and favouring conditions. A certain explanation may seem to suit one outbreak, and be wholly irrelevant for another. "The circumstances of the great and sudden explosion of diphtheria in 1858 and 1859 are as likely as any to throw light on the causes of the disease. These two years were remarkable for the Thames running so low in summer as to give out a stench, which was thought to forebode much fever. The expected epidemic of fever did not come: it was diphtheria that came. The low state of the rivers was an index of a low level of the ground water. If diphtheria is to be included among the infections that have the habitat of their virus in the soil, it will probably be found to be affected by irregularities in the movement of the subsoil water. A series of observations have been made which seem to favour that hypothesis."

Dr. Creighton does not seem to look with much favour on the view that fevers are due to a specific germ, which always must breed true. He holds that in many instances they are the outcome of various insanitary influences, which according to circumstances may result now in one, now in another fever. We read: "Diphtheria has affinities in its pathological nature with enteric fever on the one hand, and with scarlatina on the other; hence it may be made a question whether the recent increase in the death-rate by diphtheria in London and some other places has depended, as if by way of cor-

relation, upon the decrease in the death-rates of scarlatina and of enteric fever."

Such views as these place the author somewhat out of touch with most recent views as to infection, but they perhaps render it easier for him to enter into the spirit of the physicians of the seventeenth and eighteenth centuries.

Dr. Creighton's work does not appeal to a very large class of readers, and perhaps may not be very extensively read. But to all those who desire to learn something of infective disease as experienced in fever epidemics, we recommend this work, feeling confident they will find it an invaluable store-house of information.

Essays in Heart and Lung Disease. By ARTHUR FOXWELL, M.A., M.D., Cantab., F.R.C.P., Physician to the Queen's Hospital, Birmingham. London: C. Griffin & Co. 1895. Pp. 476.

THESE essays cover a good deal of ground in the domain of heart and lung diseases, and show much observation and a considerable degree of originality on the part of the writer. Many, perhaps most, of Dr. Foxwell's readers, will not find themselves able to agree with all that he writes; but still, if they carefully read these essays, they will not fail to feel that they are studying the work of one who has thought carefully about his subjects.

Dr. Foxwell's views differ markedly from those generally held on the subject of most of the inflammatory diseases, such as coryza, quinsy, pneumonia, laryngitis, meningitis, pericarditis, vesical catarrh, and many others. He regards all these as being various local manifestations of one and the same constitutional specific disorder, which he names *Catarrhus*; of this the essential cause is a micro-organism, probably the pneumo-coccus of Friedländer or of Fränkel. This view—a rather startling one certainly—is supported by a number of arguments and of clinical facts.

Of the other essays, the greater part relate to the Respiratory Organs; they treat of Dyspnoea, Laryngitis, and Congestion of the Lungs; but especially of Phthisis and its treatment, whether by means of drugs, operative or climatic.

Dr. Foxwell has studied the Engadine carefully and writes on it at some length. He is very favourably impressed with Arosa, a little village some five or six hours' walk from Davos.

There is a very practical paper on the Prognosis of Phthisis. Dr. Foxwell enumerates four classes of cases as being incurable—viz., Acute Tuberculosis; Acute Pneumonic Phthisis; Chronic Phthisis with signs of activity scattered throughout both lungs; and Laryngeal Phthisis. On the contrary, in the following cases hope may be held out:—Cases in which there are lesions scattered throughout both lungs, but their deposit has taken place at considerable intervals, so that some are fibrosed before others arose; Cases where both upper lobes are involved, but the lower lobes are sound; Cases where the mischief is confined to one lung; and (most hopeful) Cases in which the disease has remained limited to one upper lobe. Of course, he adds, many other circumstances—social surroundings and pecuniary conditions—must also be taken into account.

The Circulatory System is considered in these lectures on the condition of the Vascular System in Anæmia, which give a very complete account of the physical signs and treatment of this disease; there is also an essay on Arterial High Tension.

The publishers, Messrs. Griffin, have done their work in their usual first-class style.

Plea for a Simpler Life. By GEORGE S. KEITH, M.D.
F.R.C.P.E. London: Adam and Charles Black. 1895.

THIS booklet contains an earnest appeal for the practice of a simple *régime* in food, physic, stimulants, pleasures, &c. In the author's young days, as the preface informs us, "In Scotland, at least, the extreme doctrines of Calvin held sway, and a severe sway it was. Reaction came at last . . . &c." But we are disposed to think that a portion of the iron which penetrated Dr. Keith's soul in these bygone years remains there still. He here lends his knowledge and experience to an opposition to the reaction above referred to; and brings a great deal of sterling thought, sound reasoning

and thorough knowledge of the physical and moral aspects of human nature to bear upon the performance of his self-imposed task. As so many other earnest thinkers and philanthropic reformers can but too truly say, “I have been subjected to so much opposition in my daily life and work, that more public criticism can touch me but little.” We are inclined to think his gloomy view of the present state of medicine will not be likely to increase his popularity with his professional brethren. “I have long been convinced that the present system of medical teaching and practice is wrong. As to the former, it is so complex and multiform, that the most industrious and capable student has to load his memory with a mass of notions which he soon finds are for all practical purposes useless, and which he soon forgets—most of them never to be recalled, or, if wanted, to be found at any time in a few books of reference. Each Professor, of course, on the ‘nothing-like-leather’ principle, thinks his own branch the most important. In this respect the teaching of medicine has got much worse in recent years, and seems to be still on the down grade.” Now, every unprejudiced person who knows anything about medical teaching and whose opinion is worth anything, knows too well that all this is true. But how many voices will be required, before the confusion of tongues will become sufficiently pronounced to arrest the architectural progress of the present medical tower of Babel?

With regard to the principles of the medical practice of the day, “they differ *toto caelo* from those taught sixty years ago.” The reaction from the bleeding, purging, sweating, and vomiting of that period “came quickly, very much from the teaching of an eminent and popular physician in London, who taught that disease, as a general rule, depended on a weakened action of the functions, and required ‘getting up’—the means being stimulating and tonic medicines, and plenty of good food and drink.” A note is subjoined: “It is instructive to note that the physician alluded to died comparatively young from disease of the liver.” Following so closely upon the reference to Calvin a few pages before, there appeared to us in this instructive little note an under-current of feeling which forcibly recalled the fate of Servetus. Dr. Keith, in his student and following years, saw medical practice

in many hospitals and in many climes. Edinburgh, Pesth, Paris, and Rome contributed to his professional education. Eastern travel extended his knowledge of human nature in the early years of his practice. "There was but little scientific treatment in those days, it was mostly empirical, and the remedies were comparatively few." Bleeding was in full swing then, and Dr. Keith had a full opportunity of observing the bad effects of over-depletion in the person of his own father.

The great object of the present volume, however, is to show the evils of what may be called *over-indulgence* in the way of medical treatment. His object "is mainly to point out that the means commonly adopted at the present day for the cure of a large part of the diseases which are commonly met with in our ordinary practice, are precisely those which are themselves, when used improperly, the main cause of these same diseases. [Unconscious homœopathy!!!!] I allude, of course, to food and stimulants, and these assisted by drugs to do their evil work unobserved." There is much truth, and earnestly expressed, in the pages of this small volume; and we sincerely hope that it may receive the attention, which it assuredly deserves, from the medical practitioners of the present generation—and that the publication may bear fruit towards the reformation of some few, at least, of the many flagrant abuses of medical teaching and practice.

The Wife's Guide to Health and Happiness. By GORDON-STABLES, M.D., C.M., author of "The Girl's Own Book of Health and Beauty," "The Boy's Book of Health and Strength," "Sickness or Health?" "The People's A.B.C. Guide to Health," "Leaves from the Log of a Gentleman Gipsy—in Wayside, Camp, and Caravan," "Health upon Wheels," &c. London: Jarrold & Sons.

THE title page bears no date, so that we are free to suppose that this volume is meant for all time. There is one pictorial illustration—the frontispiece—a likeness of the author in a very comfortable-looking overcoat with a handsome fur collar.

He wears ultra-military (or naval) moustachios, and parts his hair along the meso-cephalic line.

As the reader will observe, the present volume bears a title which, like that of most of his former productions, bids high for popular attention. The author who can show the boy the way to "Health and Strength," teach the girl the true means of securing "Health and Beauty," and give the wife complete directions for the attainment of "Health and Happiness," should not, and cannot, be allowed to feel the want of public patronage. Paracelsus, Van Helmont, Sir Walter Raleigh, Bishop Berkeley, Hermippus Redivivus, and Brown-Séquard—and many others—each in his turn discovered, or professed to have discovered, a panacea for the physical ills of suffering humanity; and, so long as human nature preserves its present characteristics, there can be little doubt that every age will produce one or more. In the present instance our author's method does not consist in the use of any single remedy, belief in which does not quite so well suit the temper of this inquiring and materialistic age, but in the prescription of general rules for daily life. The volume before us consists of three books: I. "How to be Healthy and Happy;" II. "Menstruation; its Dangers and Ailments;" III. "Pregnancy and Parturition." Each book is, of course, subdivided into chapters; and each is preceded by a motto, the tone of which is calculated to appeal vividly to the heart of every sensitive member of the gentler sex. The first of these is from Wordsworth, the second from Longfellow, the third from the Book of Psalms (metrical version).

Let us select some specimens from the myriads of items of advice which the author offers to his lady readers. "Ladies should learn to walk. To walk well and gracefully does not come natural to a human being any more than it does to a bear." "I earnestly advise girls, therefore, not to permit their affections to centre upon delicate and unhealthy men. 'Pity,' they say, 'is akin to love,' but, pray, never permit it to go to the length of love." "Two in one bed. This is against the dictates of both health and hygiene. A husband and his wife should certainly occupy the same room, except when the baby is troublesome, but there should be

two narrow beds instead of one big wide one. If this advice were attended to, both husband and wife would be far more healthy, and therefore more happy." The concluding paragraph runs as follows:—"The nostrums of aged matrons, nurses, and midwives, may be well enough in their way, but in every case of doubt or difficulty, especially when pain is present, *the family physician is the firmest friend.*"

The moral, physical, and physiological advice given throughout the 237 pages of the book is all of the same tone and temper as those of the extracts we have given. In his preface the author informs us that "the book is not written with the view of enabling the young wife to dispense with the services of her doctor. *Very much the reverse.* [The italics are ours.] . . . And my advice may be deemed none the less valuable, in that I am a married man myself, and as far as family goes, very much married."

We incline to think that the title, and very moderate price, of Dr. Gordon Stables' book will help to procure him a good many readers.

Diseases of the Joints and Spine. By HOWARD MARSH, F.R.C.S.; Surgeon to, and Lecturer on Surgery at, St. Bartholomew's Hospital; Consulting Surgeon to the Hospital for Sick Children, Great Ormond-street; Honorary Member of the Medical Society, State of New York. New and Revised Edition. With Seventy-nine Illustrations. London, Paris, and Melbourne: Cassell & Co., Limited. 1895.

NINE years have now elapsed since the issue of the first edition of this work; and, of course, very much new knowledge has been added to the surgery of the joints in that interval. Referring to this fact, the author observes: "This new material I have endeavoured to introduce, and thus many of the chapters have been in great part re-written. The space prescribed has obliged me to write as concisely as possible, and also to omit reference to the works of authorities. . . . In the main, however, the views expressed are those which I have formed as the result of direct personal experience. I have added a short account of the principal diseases

of the spine, treating this subject almost entirely from a clinical point of view." The type and paper of this handbook are excellent; and we confess to being childish enough in our tastes to look upon these elements as important in our own favourite books of reference.

The volume before us, in its present form, is certainly an excellent compendium of the present state of our knowledge of the theory and practice of the surgery of the articulation as voiced by an able and conscientious surgeon of long experience, and gifted with sound judgment and keen powers of observation. Holes may be picked here and there, of course, as they always can be by the censorious reviewer—for the perfect text-book of surgery, or of any branch of it, has yet to be written. We do not like the injection of iodine for joints affected with hydrarthrosis. "Internal Derangement" of the knee-joint is treated at considerable length. The author seems to regard the occurrence of actual displacement of one of the semilunar cartilages as the explanation. We do not think so. Hey did not. The author does not seem to have read a paper published on this subject—by Mr. Knott, of Dublin—in the issue of this Journal for June, 1882. There is a very instructive chapter on "bone-setting," and the writer gives some remarkable examples of the practice of the unscrupulous bone-setting quack. "Nervous Mimicry and Hysteria" are instructively dealt with; and, as every surgeon of experience knows, they cannot be too carefully watched for. Taken all round, we know of no more reliable text-book of the important branch of surgery with which it deals than the one before us, and we cordially recommend it to the attention of every practising surgeon.

The Student's Practical Materia Medica. By GRACE HAXTON GIFFEN, L.R.C.P. & S.E. Bathgate Gold Medallist in Materia Medica, Royal College of Surgeons, Edinburgh; Senior Demonstrator of Anatomy, Ladies' School of Medicine, Chambers-street, Edinburgh. Edinburgh: E. & S. Livingstone. 1895.

THE learned authoress informs the reader in her short preface that "This book is intended for a pocket manual,

and as indicated in the text, the chapters on the distinguishing points of the different subjects must be read with the specimens before the student." The latter portion of this sentence explains the use of the word "practical" in the title—and the first sight of this much-abused adjective rather puzzled us.

This booklet is well printed, and the subject matter is judiciously arranged in seven chapters. The physical appearances of the various drugs of the B. P. are concisely noted. As the title page shows, the authoress gave special attention to the subject of *Materia Medica* in her student days; and there can be no doubt that it is to her continued interest in its study, coupled, probably, with the benevolent "*Haud ignara mali*" sentiment of the founder of Carthage, that the heavily-weighted five-years'-system-candidate of the present period owes the production of this very concise little manual. And we recommend it to his notice—heartily.

Lady Cook (TENNESSEE C. CLAFLIN) on the Evils of Society and their Remedies. Second Series of Essays. The Universal Publishing Company, London. 1895.

LADY COOK is a well-known and energetic champion of the rights and privileges of her sex. In this little paper-covered volume of 63 pages will be found a well-written series of "Essays" on the burning question of marriage, and kindred considerations. The principal of these is the first: "A Short History of Marriage," which contains a great deal of interesting matter—much more interesting, indeed, than edifying. As the essays are dedicated to "My Dear Husband, who has most generously aided me in all my work," the reader will be predisposed to think that the personal experience of the authoress must have been a favourable one; but this opinion is considerably qualified, afterwards, by the bitterness of many of her reflections—indicating unpleasant ideas, which are apparently based on some more substantial foundation than hearsay knowledge. The learned lady does not at all mince matters. She begins her history with the beginning, and quotes the records of learned observers, who have said of the *Wild Indians of*

California, and *Aborigines of Australia*, respectively, that "They have their rutting seasons as regularly as have the deer, the elk, the antelope, or any other animal;" and "Like the beast of the field, the savage has but one time for copulation in the year. About the middle of spring, when yams are in perfection, when the young of all animals are abundant, and when eggs and other nutritious foods are to be had, the Watch-an-dies begin to think of holding their grand semi-religious festival of Caa-ro, preparatory to the performance of the important duty of procreation." Lady Cook's idea of the union of the sexes is a high—an ideal—one. She asserts that "nothing but true companionship and desire for children can ever justify marriage." In another essay she defends the equal right of women to propose, and in another she expresses the opinion that "No love is without seduction in its highest sense." She does not think badly of the *prægustatio matrimonii*: "In my profession of physician, I have been consulted by thousands of such women, and I can truly say that, in a very large proportion of cases, they have confessed and confided to me that they had placed the fullest confidence in their husbands prior to marriage, and that no subsequent advantage was taken of that fact by the men. In other words, the so-called 'seduction' in these numerous cases was not followed by desertion. It never became known therefore as 'seduction.'"

We will not multiply extracts. We feel sure that Lady Cook's essays will be widely read.

Stocken's Dental Materia Medica. Fourth Edition. London :
H. K. Lewis. Fcap 8vo. Pp. 155.

THIS attractive little manual, which has already run through three editions, is one which should prove of signal service to both students and practitioners in dentistry. In a comparatively small space there has been grouped together a description of nearly every drug which a dentist would be likely to require in daily practice. Many suggestions—some original—are made as to treatment of various diseased conditions. A number of prescriptions are appended under the heads of the respective affections they are intended to

alleviate, and these, too, should prove of service to the busy dental surgeon. Much is explained relative to nitrous oxide gas, chloroform, and ether. A description as to the method of performing artificial respiration is also given. The printing, binding, &c., are all that could be wished.

Smith's Physicians' and Surgeons' Visiting List, Diary, Almanack, and Book of Engagements for 1896 (Bissextile, or Leap Year). Fiftieth Year. London: Hazell, Watson & Viney, Ltd. No. 1A and No. 5 Editions.

THIS handy and clearly-printed Visiting List celebrates its Jubilee in its present issue. Hence it needs no words of commendation from us.

The collateral information contained in the 32 pages which precede the Visiting List proper is comprehensive and useful, while the Book of Engagements at the end is all that can be desired.

We congratulate Messrs. Hazell, Watson & Viney, who have succeeded the late John Smith & Company in their business as medical stationers, upon the very complete form which the Visiting List has assumed. We have only to add that the work consists of as many as six distinct editions to suit every style and extent of practice. The No. 1A Edition supposes the treatment of 25 patients in the week. It presents such a week's work on a single page, and has a small additional space for daily memoranda. The No. 5 Edition is, to our mind, less handy.

Diseases of the Fetus: a System of Ante-Natal Pathology.
By J. W. BALLANTYNE, M.D., &c. Vol. II. Edinburgh: Oliver & Boyd. 1895. 4to. Pp. 234.

AFTER an interval of two and a half years, volume II. of this work has appeared, and those reading it will feel no surprise at the long interval that has elapsed between this and the first volume. The ground covered by the author is of a most difficult nature, necessitating not alone great ingenuity, but also vast literary research. A guarantee of

the thorough manner in which the work is carried out is afforded by the name of the author, and we can only fear that the task of completing it will prove too great even for the untiring energy of Dr. Ballantyne.

Though this volume deals exclusively with the consideration of the congenital diseases of the subcutaneous tissue and skin, the author was not in a position to complete the subject, and has deferred, for future consideration, a very formidable list of diseases, viz., congenital pemphigus; the congenital diseases of the hairs; of the sebaceous, and sudoriparous glands, and of the nails; the pigmentary anomalies, and a few other skin affections, such as absence of the skin; cutaneous ulcers; *xeroderma pigmentosum*, &c.

Amongst the diseases discussed we note scleroma; subcutaneous abscess of the fœtus; atrophic states of the subcutaneous tissues; dermatolysis. *Ichthyosis*, in its several varieties, occupies a large share of the book's available space.

It is, we are confident, the most comprehensive account of the diseases as yet published, and the excellent illustrations of the deformity greatly help the reader to a more complete understanding of the condition in question.

“Living skeletons,” with illustrative cases, receive due attention.

The author believes that Bazin's generalisation of the congenital cutaneous affections holds good in nearly every case:—(1) They are local, or universal in distribution; (2) are not accompanied by itching; (3) do not usually cause any derangement of the general functions of the system; (4) do not interfere very markedly often with the general functions of the skin; (5) have a slow progress; and (6) have an indeterminate duration.

Dr. Ballantyne's classification of the idiopathic cutaneous affections is clear, original, and very comprehensive. It merits the closest attention from all who are anxious to make themselves fully acquainted with this comparatively neglected subject.

In conclusion, we have to congratulate the publishers on the excellent manner in which they have carried out their part of the work.

PART III. MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

*Some further Lessons of Life.** By SIR THORNLEY STOKER,
President of the Royal College of Surgeons in Ireland;
Surgeon to the Richmond Hospital, &c.

LAST year I ventured to address you on some of the lessons I have learned since I left the ranks of college students to join in the broader studies of life, and you received me so kindly that I am now disposed, with your permission, to go a little further in the same direction and convey to you a few more of the lessons thought and experience—often bitter—have taught me.

You may take it that the man who, earliest in life, learns to see things clearly and weigh them justly, and who has common sense to apply his experience, is he who is most likely to succeed. Not merely because of his innate powers, but because the race of life nowadays is so rapid and the contest so fierce, that he who makes a late start is left out, and can seldom overtake his fellows. Therefore it is of great importance for you to form your minds on affairs as early as possible. If I can, out of my own experiences, impress this upon you, even although I can teach you but little, I shall have done much. He who looks abroad in these days sees many able men who fail because their judgment ripens too slowly, and whose start on the level road is therefore too late.

Of your present studies I would say but little, and that little more general than particular. Methods are things which men must perfect for themselves, and which no amount of teaching can thoroughly develop. Therefore I

* Address at the opening meeting of the School of the Royal College of Surgeons, Ireland, Session 1895-96.

only propose to put a few broad principles before you, leaving their application and development to your own intelligence. I assume—it is but courteous to do so—that you have come to the study of Medicine with trained and prepared minds, and with enough initial matter to ballast your ship. You probably have what has been called “the education of gentlemen”—“that is to say, an arduous acquaintance with Latin.” Let me warn you that at best the education you have heretofore received is but a training and not a development. Your minds are like books of Euclid, excellent so far as they go, but only means to ends. There is a term we often hear applied to a student, which he would not like did he measure its significance. We say, “he has much general intelligence.” Gentlemen, avoid a reputation for “general intelligence,” it is usually the property of smatterers; “general intelligence” often means particular ignorance. Many of the studies you engage in during your undergraduate course are, at least, as valuable as means of mental training as for their intrinsic application to the work of your life. I may name among these anatomy and surgery as two most eminent, because of all they are the two which best cultivate your hands, your eyes, and your intellects. Other studies may constitute the highest training for one set of faculties; these two studies combine an education in all. I do not underrate chemistry, or physiology, which, I am told, is not so popular with students as the merits and simplicity claimed for it by its professors would lead us to believe!

Two faculties you have to develop that books or lecturers cannot teach, the use of your eyes and the use of your hands. You may have eyes and yet not see; you may have hands and yet not know how to use them. Some people can never acquire these faculties to any degree; to them surgery and medicine are unsuited, and they can never be more than daily labourers at outer toil. The possession of what a jockey would call “hands” is a quality to be cultivated. It means certainty, delicacy, and firmness of touch; it means strength with precision, and grace compatible with force. It means not only trained fingers but an educated brain, for what the mind does not feel the hand cannot do.

To learn to see is even more difficult, and, in high degree

is a quality not given to the multitude. You remember the story of Turner, to whom came a critic and patron wishing to purchase some of his wonderful drawings. "After all," said the critic, "cliffs are only chalk, and stones, and grass; I can't see all those wonderful blues and reds in chalk, and stones, and grass." "No-o," growled Turner, "I dare say you can't, and don't you wish you could." There are two varieties of education which you have to acquire—the alphabetical and the logical. The first is mere dictionary work, the second the exercise of reason. The first is a necessary means to the second. Their cultivation may go on together; acquaintance with technology may be made before a technique is understood. I am no advocate of hard and fast lines in education. It is impossible to arrange an educational course in items each constituting an entity; it is rather like a flight of stairs, one of which leads to and depends on the other, and therefore much must be left to your individual judgment and adapted to your individual habit.

If you will watch the men who have succeeded in medicine and surgery you will see that there is nearly always some quality to justify their success. There is occasionally an exception to prove the rule, but generally you will find that with brain power, which may be great, or only good, they can use their eyes and hands to a degree not given to all.

If I am to glorify one study above its fellows as serving us most completely, I must name Anatomy. It is not of less value as a means of mental training than as an essential educational factor. It cannot be studied in books alone, nor can it be studied without books; it is a Science as well as an Art, it trains the hand and eye as well as the brain; it combines the advantages of a united study of mathematics and the fine arts, and, in addition to all this, is indispensable to the intelligent pursuit of surgery and medicine. There is no limit to its possibilities, it carries us to all places, all ages, and all created things. It engages the philologist, the chemist, and the mathematician in its service, and joins the geologist with the anatomist in its pursuit. And let me say one thing of it—it is only when you have mastered its elements and learned its alphabet that you know the wonderful secrets it can tell.

Of Surgery too, I would like to speak, but tempered by that discretion which is wisely exercised when speaking of a thing we love. The chief work of my life has been so much associated with it that I may be too partial in the esteem in which I hold it as a means and as an end. As a training it goes beyond anatomy in that it brings us more in contact with problems of actual and intellectual life, and makes us study men as well as things. That it is a great Art as well as a Science may be illustrated by a comparison with painting. Like it, it meets the aphorism of Da Vinci "that art is the highest which is least dependent upon bodily labour." In both the consummate technical ability and executive faculty is only a factor, although a necessary one, and is subordinate to the power to see things that those who look blindly cannot see, and which is essential to the suggestive or creative faculty which lends itself to the higher expressions of art.

With regard to your method of study I say little. Every capable man forms his own method, and we cannot order men as we do machines. I would only in this context impress one point on you—be perfectly candid and honest in your methods as well as earnest. I was much struck with the late mention by Dr. Gowers, of a saying of Sir William Jenner: "The unpardonable sin of the student was to say 'yes,' when he ought to say 'no'—to say that he heard a thing, that he felt a thing, that he understood a thing—when he did not." Learn to say 'no,' it will serve you not only in your studies but in your after life; it is not always an easy thing to do, but it is a lesson which every capable man must acquire. I will not weary you by further pursuing these illustrations and this argument. I have, perhaps, said enough in this part of my subject to make some one think who has not thought before, and to show that our most technical studies have more than a technical value.

To those of you who are leaving our walls to begin the broader battle, there are a few matters I would like to say something about. They have concern with your relation to your patients, and if you can carry them into your practice you will be happier and not less prosperous. Be perfectly truthful in all your dealings, and let no question of expediency induce you to place any loose interpretation on this rule.

Remember that, as Coleridge put it, "the best Physician is the best inspirer of hope," but in trying to inspire Hope do not tamper with Truth. This is a temptation which constantly arises, and is difficult to put away. It is a temptation to which you will be constantly exposed in your own work, and often subject to the effects of in your dealings with some of your brethren. You may meet consultants who view this matter differently from yourself, and you will be subject to the pain and injury of having too favourable an opinion given where you have no hope. This is one of the many mortifications you must hear silently and with submission to the great law of Obedience.

Remember that you have no property in your patients. We are the servants of the public, and not the public of us. Apart from the obvious morality of this, you will find that no man ever had a worse friend than an unwilling patient. Do not cling to patients unless they wish to cling to you. The public are to be pleased with their doctors, and not the doctors with the public. People will get tired of doctors and lose confidence in even the best of them, and as confidence is the essence of the true relation between patient and physician, it is no less cruel than unwise to continue an attendance just because you happen to be the man in possession. Too often we hear of 'my' patient, and too often we hear reflections on the patient if he seeks other advice, or on the other doctor if he gives it. You will show best your wisdom as well as your kindness by giving opportunity of change to the client to whom you think you are not welcome, and you will show even more wisdom, combined with tact, by withdrawing in such a way as to avoid offence or illfeeling. If you have no higher motive for being kind to your patients than an interested one, at least remember that the poorest and meanest person you are called on to treat, may be to you as the mouse to the lion. The richest and most influential circle of patients I have ever had, was gained by the connection I had acquired with a shop assistant who was too poor to pay a fee. I should, indeed, be sorry if you understood me to recommend humanity for such an end as this, but to men less worthy it is as well to remember the axiom attributed to Sir Philip Crampton, that "every new patient is the centre of a circle whose circumference is Infinity."

In your earlier professional life, there is no subject will cause you more consideration than that of 'consultations.' The tendency of many a young practitioner is to regard the proposition for a consultation as a reflection on himself. This is utterly false, as well as extremely foolish. In the first place a patient has a perfect right to procure any opinion he wants, and in the second place no sensible man can fail to see the general advantage of arguing out a case with a colleague. You may depend on it that hesitation to accept a consultant reflects not only immediately on your own wisdom, but ultimately on the position you hold in the confidence of your patient. Never refuse a consultation, and never press a particular consultant on your clients. To refuse to sanction the employment of an additional opinion is to show want of regard for the feelings of others, and too much regard for your own attainments. If your patient wishes for a particular consultant it is as proper for you to accept his wishes as it would be wrong for you to press some friend of your own on his notice. There is not the smallest doubt that errors in these directions visit themselves sooner or later on those who commit them. To refuse a consultation when offered is as foolish, as it would be dishonest to suggest one when it is not necessary.

But quite apart from the ethical question of consultations, it is well to consider their substantial value. That they give confidence to patients, and that when intelligently conducted they help to elucidate obscure cases and develop their treatment, are evident facts. These are but repetitions of the old saying that two heads are better than one. But a consultation has often a value that is not seen at the first look; it means the introduction of a fresh and unaccustomed eye and the application of an untired mind. As you advance in life and experience, you will often find that the introduction of an adviser into a case, who has not had your familiarity with it, will be of help, for he will sometimes see with his fresh eye things which you, from your very intimacy with them, you have either not seen, or seeing, not duly weighed. Custom has staled their variety; so that even a colleague of less capacity and experience than yourself may give you assistance.

You will often have to practice patience in your dealings

with consultants, for every man who has gained what is called a 'consulting position,' and holds the confidence of the public, does not deserve it. You will meet consultants who canvass for their professional friends, often to your detriment. You will meet those who exercise a dishonest minuteness in their examination of cases, intended to impress the patient, and eminently calculated to discredit you; men who will examine the spleen when they are consulted about disseminated sclerosis, or the toe-nails in a case of cerebral tumour. You will find others who ride the doctrine of Hope to your detriment as well as to the deception of the patient or his friends. In fine, you will find just such difficulty here as in the other incidents of your life, and it is with a view of giving you help by giving you information that I dwell on this particular. In those cases where you are left to suggest an adviser, think only of his merits and powers as you understand them, and whether he is, or is not, a *persona grata* to you, advise his employment if you think he is the most highly qualified person; and while you obstruct the introduction of no one who is asked for, and can give confidence, distrust in your private mind the man who has an instrument for everything, a medicine for everything, an exact diagnosis for everything, that is to say, the voluminous humbug, the therapeutic humbug, the clinical humbug! The highest attribute of genius is simplicity; the greatest evidence of learning is directness.

I would also counsel you to avoid that creature of modern birth, the 'general specialist.' This is he who, practising physic or surgery in their wider sense, yet claims to have not only high excellence in these sciences at large, but commanding knowledge of certain of their branches. He is generally so splendid in his achievements and attainments in the eyes of his friends and himself, that the wonder is where the "special" merit comes in. He may be generally excellent in the fields of medicine with a special knowledge—it is claimed—of the heart, or the lungs, or the liver, or the brain, or any other organ or number of organs; but his peculiar faculty with regard to you is that his special qualities seem to crop up in the particular case his friends wish him to be consulted about, and that no matter in what field he trespasses

he is a specialist and you are an outsider. Sometimes he combines a special knowledge of the eye, or ear, or throat, or of the skin, or the bladder, or all of them, with his general practice ; or he may be a gynæcologist who has a special acquaintance with diseases of the scalp ; or a man who is specially gifted in the treatment of gout, or even of more doubtful complaints, because he has had them himself ! The danger of all this dishonesty and absurdity, so far as you are concerned, is that it often ends in the 'specialist' getting the confidence of your patient on his 'special' grounds and keeping him on his 'general' ones !

The fashionable craze of the day is for what the public call 'specialists,' and as specialism is often another name for quackery and ignorance, it behoves you to be watchful about it. If you have to choose a specialist as a consultant in any of those cases that are the proper ones for the exercise of special study and observation, select him who to a particular cultivation in his special branch of surgery or medicine adds a wide general education in his profession. It is no more possible for a man to attain true eminence in the narrow field of a specialty without collateral education, than it is for the eye to exist as an independent organ, or the stomach to perform its functions without the aid of the heart. And for your own legitimate protection, entrust your special cases only to those who confine their practice, if not their studies, to a particular branch of surgery or medicine. Otherwise you will find the scarlatina of the child attended—to your exclusion—by the gynæcologist you recommended to its mother, or the case of specific disease conducted to its termination by the gentleman to whom you sent the case of iritis !

You must not take these counsels in too worldly a sense, but exercise them discreetly to your protection, but not to your undue advantage. Remember that while you have a right to protect yourself to a fair degree, you must always be prepared to subordinate your own interests to those of your patients, if they should clash ; and if either has to suffer a wrong, remember that by every law of Morality and of Honour you are bound to submit yourselves to the yoke. I pray you to believe that I give counsels like these in no light spirit, for I feel the gravity of my office. But I have

learned in the course of my life to feel as well as to know that a chastened spirit is a great joy, and that Life holds no pleasure like the ripe happiness of Continence.

Gentlemen, you hear a great deal of advice about your work, bear with a little about your play. I am in grave earnest when I say to you, be sure and take enough relaxation—of a proper kind. You know the old adage about “all work and no play.” I think students are at present so overburdened by subjects and examinations, and so driven by an enforced and ponderous routine, that their tendency is to work themselves into mental and physical torpor. Hear the advice of a poet—

“Tired brain, there is a place of rest
 On the broad bosom of the Land,
 Where quiet will reward the quest
 Of Quiet ; and the iron hand
 Of toil upon the rolling hills
 Will be unheard—Ah, there shall we
 Find quiet in the tumbling rills ;
 Or in the tumult of the sea,
 The quiet that my dream fulfils
 Of Quiet—aching tho' it be.”

Digest this and learn to distinguish between rest and amusement. Each has a due claim and a proper place, but one must not monopolise or exclude the other. Be temperate in your disposition of them. “Alternate rest and labour long endure.” Let true repose be yours when your yearly toil is over; let your honest work lend value to your honourable rest, and you may sleep with happy dreams and awake without remorse.

ABSORPTION BY THE BLADDER.

We learn from the *Gazette Médicale de Paris* that Messrs Pousson and Sigalas communicated to the *Académie des Sciences* the result of their experiments on four individuals, into whose bladders a solution of lithium salt had been injected. Three were suffering from cystitis, the fourth was healthy. They found that the healthy vesical epithelium is impermeable, and that absorption takes place only when the epithelium of the bladder has undergone morbid change, or when the organ is so full that the urine is in contact with the prostatic portion of the urethra.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—WILLIAM THOMSON, F.R.C.S.I.

JOINT MEETING OF THE SECTIONS OF MEDICINE AND STATE MEDICINE.

President of Section of Medicine—THOS. W. GRIMSHAW, M.D.,
President of the Royal College of Physicians of Ireland.

President of Section of State Medicine—J. M. REDMOND, M.D.

Secretary of Section of Medicine—A. N. MONTGOMERY, M.R.C.P.I.

Secretary of Section of State Medicine—N. FALKNER, F.R.C.P.I.

Friday, November 15, 1895.

The PRESIDENT of the Section of Medicine in the Chair.

The PRESIDENT of the Section of Medicine made some opening remarks, and thanked the Academy for his present position as President of the Section.

The Infectious Hospitals (Dublin) Scheme.

Dr. J. W. MOORE read a paper on this subject. [It will be found at page 486].

On the Isolation of Fever Cases.

Sir C. A. CAMERON read a paper on the above. [It will be found at page 500].

DR. JAMES LITTLE said that Sir Charles Cameron had put the theory of infectious disease very strongly and plausibly. The force of those arguments was, however, greatly lessened to himself by his own experience. For the last thirty years he had been connected with the Adelaide Hospital, where they have always taken infectious diseases of all kinds except small-pox. During that time he had known only two patients who contracted an infectious disease in the hospital. One was a patient with enteric fever, who caught typhus. The other was also suffering from enteric and he caught scarlatina. In each case the patient that gave the disease was lying in the next bed. There had never been a spreading of scarlatina from the fever hospital to the main hospital, which is a few yards from it. For many years it had been his practice when

beginning his clinical teaching, to go with all the class to the scarlatina ward, and then next to the children's ward, and no child got scarlatina in that ward. He did not do so now. In the fever hospital the upper floor is for scarlatina, the middle for enteric, and the lower, the observation wards. The nurses and students go up from one floor to the other and the patients never contract scarlatina. It was his opinion that patients ill of infectious diseases should not be put lying next patients ill with other diseases. He would not mix up scarlatina with enteric or pneumonia. In Dublin many parents would willingly send their child to a certain hospital because they know some of the staff, but would conceal the fact of the child's illness in order to prevent his removal to a fever hospital outside the town. He thought that students would learn a great deal more about fever by carefully watching one or two cases than by going into a large fever hospital. According to Sir Charles Cameron, there is a great decrease of fever cases under the existing circumstances, and so he did not know why they should be changed.

MR. TOBIN said there was a great necessity that students should be thoroughly instructed in each variety of fever.

DR. WALTER SMITH signified his unqualified approbation to what Dr. Little had said. It was perfectly absurd to talk of theory as against the enormous mass of practical facts. Besides, the finances of Dublin must be considered. It would inflict an irreparable loss on the education of students. How is the proposed new hospital to be always kept a mile outside the town? How are people to be prevented from building around and up to it? A very constant use of the present fever wing is made by the surgeons sending their cases of erysipelas there. If there was no fever wing, how would the erysipelas cases be isolated? Small-pox was much more contagious than the other fevers. Typhus, which came next, occurred here only epidemically.

DR. C. F. MOORE said that as a student he had seen only one case of small-pox. Shortly afterwards he had to make a diagnosis, on board a large steamer, whether a certain case was one of small-pox or not. If he had not seen the one case, he would not have been so conversant with the disease. He thought small-pox was spread, not from Cork-street Hospital, but from the public-houses in the neighbourhood. Another agent to produce small-pox in the locality was the mountain of filth, forty or fifty feet high, in Marrowbone-lane, where the Corporation carts emptied all the rubbish. So he did not think the hospital should be blamed for the origin of small-pox in that neighbourhood.

DR. S. M. THOMPSON said that during the late epidemic of small-pox, 300 beds were taken from the South Dublin Union, greatly to the detriment of patients who were very ill. Between four and five thousand pounds were spent in erecting sheds of wood, which should have been of concrete, and which were quite inadequate. It was absolutely essential when other hospitals would not take in small-pox that a small hospital should be made for their reception, and that this should be done now and not during an epidemic. Asiatic cholera was also very fatal and contagious.

SURGEON-MAJOR DALY proposed that the Pigeon House Fort should be utilised for the purpose. It was a mile distant, and was by the water-side. There would be no building expenses.

DR. C. JOYNT, with 30 years' experience in India, never knew a single case of infectious disease to be conveyed in a hospital.

DR. CRAIG said that Dr. J. W. Moore had very clearly laid before them the objections raised. He did not think they should consider the cost of the hospital if it was good for the public health. With regard to the interference with medical teaching, he would not discuss that, as it would not carry much weight with either the public or the Corporation. All who had any experience knew that the friends of those suffering from infectious diseases had a great objection to sending them into a fever hospital. If not able to send them into the fever wing of a general hospital they would keep them at home, and a great deal of concealment would go on. Dr. Moore had shown them that the Public Health Act contained enough to enable the Local Government Board to provide a small-pox hospital and a Convalescent Home, and all were agreed that these were necessary. The people must be taught that small-pox was preventable by proper vaccination, and re-vaccination, and sufficient force was not laid on this point. The spread of typhus could also be prevented by better sanitation. Refuges for the temporary accommodation of the inmates of houses in which small-pox had broken out were also needed.

SIR THORNLEY STOKER wished to say a few words from a surgeon's point of view. It appeared to him that to deal with the question of the proposed hospital there should be a hospital for cholera, for small-pox, and for patients convalescent from infectious diseases. He believed that it was practically an impossibility for an outbreak of cholera to occur again. It would be waste of money to meet an epidemic which it is extremely improbable will ever enter this country. He was entirely in accordance with the previous speakers, that the proper course with regard to small-pox was its prevention, and not its cure. He agreed with Sir Charles

Cameron on the necessity for a Convalescent Home for patients getting well from infectious diseases. He was not aware that fever found its way into the Richmond Hospital, nor did they even find any inconvenience from the small-pox when it was treated in the Hardwicke Hospital. He thought that one fever, to a certain extent, prevented an attack from another fever.

MR. CROLY said that in the City of Dublin Hospital they could not trace any case of scarlatina carried from the detached hospital into the other. Great precautions, however, were taken, and they now had an arrangement for isolating typhoid. They were very glad to give the cases of erysipelas to the physicians. If there was no danger of spreading of diseases why were detached wings built? If they had in Dublin a good arrangement for treating small-pox and cholera and a good place for convalescent patients the present hospitals should be left as they were.

DR. BEWLEY said that Sir Charles Cameron must have a good deal of evidence as to where disease started in Dublin. If he had no evidence to show that the various general hospitals are the centres of infection, then his argument fell to the ground. He would like small-pox excluded from the town, as there was good evidence that it was transmissible through the air to a considerable extent. But with regard to the other fevers, unless it could be shown that there is a greatly increased prevalence of them around the hospitals, they were very well contented with the present condition.

MR. W. THOMSON said, that according to Sir Charles Cameron, there were nine centres of infection from hospitals in Dublin. If any members of the families of those present were taken ill with an infectious disease, Sir Charles Cameron would not require the individuals to be removed from their homes. Suppose there were 200 such cases through the city, and the present fever hospitals were abolished, and one outside the city was erected in their place, how would simply extinguishing the nine centres and leaving 200 centres scattered in individual houses through the city get rid of the difficulty? In a hospital the physicians, students and nurses took care, as far as possible, that they do not bring infection outside. In private cases these rules are not obeyed.

DR. PARSONS said, that if statistics proved anything, then Sir Charles Cameron had furnished very strong evidence in favour of the present system of treating infectious diseases. They were better here than in other cities where they had isolated hospitals. If the scheme was carried out they would require half-a-dozen isolation hospitals for the different diseases. How would the students who visited an infectious diseases hospital outside the town be

prevented from visiting other hospitals. What held good for small-pox did not hold good for the other diseases.

DR. DAY did not agree that people were unwilling to let their friends go to a fever hospital. As regards the spread of infectious diseases, artisan dwellings had been put up within 300 yards of Cork-street hospital. They had had only one case of typhoid and one case of scarlatina from these dwellings. If students who wanted to see small-pox would come up to him, he would be very glad to show them the cases. Friends of patients were not allowed into the infectious wards, except in very exceptional cases. He had never seen a visitor coming back as a patient in the small-pox epidemic. The first small-pox case on the south side was the man who drove the small-pox van.

DR. FALKNER said, that the management during the small-pox epidemic of conveying patients to hospital and disinfecting was absolutely perfect. He endorsed Dr. Day's opinion that patients now wish to go to a fever hospital. The poor people will go to any institution where they are properly treated.

SIR CHARLES CAMERON replying said, he wished to make an explanation with regard to the circumstances under which the scheme was brought before the Conference of the Sanitary Authorities held in the Public Health Office. The original Conference was held simply for making arrangements for future epidemics of small-pox, and also for providing one or more homes for patients convalescing from fever. There was considerable discussion at the first meeting. He was asked to meet Dr. Stafford and prepare a scheme. He was distinctly asked to include in the scheme the consideration of hospitals for other infectious diseases. Dr. Stafford fully approved of the scheme which was drawn up and was quite willing to share the responsibility. It seemed they all were agreed that two out of the three objects set forth in the scheme should be carried out. He had subordinated the third all along if the first two were accomplished. He would be glad to have the third also, because he was still convinced that what they did in other countries was right, and that it would be better to treat infectious diseases in special hospitals. The Public Health Authorities had the power of compelling all infectious cases in tenement houses to go to hospital. When he had a case of scarlatina in his own family he sent it to hospital. When his child was at the Adelaide Hospital the Resident informed him that he had got scarlatina from his child. When small-pox was received in the Adelaide Hospital there was not a house in one street at the

back of the hospital which had not a small-pox case. He thought that if the Corporation of Dublin contributed £5,500 to the Dublin hospitals they might also contribute to the expense of having a hospital for small-pox. He said there were 220 square miles in London, and so the fever hospitals could not be established outside London, but they were in the best position that they could be. If they admitted that small-pox and typhus and scarlatina could be transmitted through the air, their position fell through altogether. He did not say that typhus and scarlatina were as contagious as small-pox. Everything done to prevent contagion must be of some use. The chances that persons in the neighbourhood of patients suffering from small-pox or scarlatina will get it are more than if they were at a distance from them. The cause of the decrease in the death-rate from infectious diseases was due to the general improvement in sanitation. He had no intention of interfering with existing Dublin hospitals. He resisted the proposal that the grants to them should be considered, but he was defeated. The scheme was proposed with the very best intentions. Having regard to the weighty opinions expressed by the leading medical men, he had decided to abandon the third part of the scheme. His paper contained his honest conviction as a sanitarian. The two primary objects, namely—

- (1.) The making proper provision for a future epidemic of small-pox; and
- (2.) The establishment of a home for convalescent infectious cases,

he was determined to keep to, and to use all his influence to carry them out.

DR. GRIMSHAW, being obliged to leave, the chair was taken by DR. REDMOND, President of the State Medicine Section.

DR. J. W. MOORE, replying, said that he had heard with great gratification the statement made by Sir Charles Cameron, that he would limit his scheme to providing accommodation for small-pox patients, and of having a convalescent home for persons recovering from all infectious diseases.

DR. DUFFEY proposed, and DR. FALKINER seconded, the following resolution, which was passed:—

“Resolved, that the General Council be requested to convene a special general meeting of the Academy to consider and express an opinion upon the proposed scheme for a Hospital for Infectious Diseases in Dublin.”

The Sections then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;
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VITAL STATISTICS

For four Weeks ending Saturday, November 2, 1895.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Oct. 12.	Oct. 19.	Oct. 26.	Nov. 2.		Oct. 12.	Oct. 19.	Oct. 26.	Nov. 2.
Armagh -	21.0	7.0	7.0	14.0	Limerick -	14.0	22.5	19.6	12.6
Belfast -	25.4	26.7	22.9	29.0	Lisburn -	12.8	21.8	12.8	17.0
Cork -	24.9	18.8	24.2	27.7	Londonderry	17.3	14.1	29.8	31.4
Drogheda -	8.8	13.2	22.0	39.5	Lurgan -	9.1	13.7	18.7	4.6
Dublin -	25.2	24.0	20.0	29.8	Newry -	28.2	36.2	20.1	44.3
Dundalk -	8.4	12.6	29.3	41.9	Sligo -	20.3	50.8	20.3	5.1
Galway -	15.1	11.3	34.0	34.0	Waterford -	12.5	10.0	12.5	22.5
Kilkenny -	4.7	14.2	18.9	28.3	Wexford -	22.6	27.1	27.1	31.6

In the week ending Saturday, October 12, 1895, the mortality in thirty-three large English towns, including London (in which the rate was 17.0), was equal to an average annual death-rate of 21.0 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19.3 per 1,000. In Glasgow the rate was 17.6. In Edinburgh it was 20.5.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 22.9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3.7 per 1,000, the rates varying from 0.0 in nine of the districts to 8.1 in Newry—the 7

deaths from all causes registered in that district comprising 2 from diarrhoea. Among the 133 deaths from all causes registered in Belfast are 2 from measles, 1 from scarlatina, 2 from whooping-cough, 4 from simple continued fever, 7 from enteric fever, and 8 from diarrhoea. The 36 deaths in Cork comprise 2 from whooping-cough, 1 from enteric fever, and 4 from diarrhoea. The 11 deaths in Londonderry comprise 2 from diarrhoea.

In the Dublin Registration District the registered births amounted to 199—100 boys and 99 girls; and the registered deaths to 180—98 males and 82 females.

The deaths, which are 26 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26.8 in every 1,000 of the population. Omitting the deaths (numbering 11) of persons admitted into public institutions from localities outside the district, the rate was 25.2 per 1,000. During the first forty-one weeks of the current year the death-rate averaged 29.0, and was 1.8 over the mean rate in the corresponding period of the ten years, 1885-1894.

Thirty-three deaths from zymotic diseases were registered, being 19 over the low number registered during the preceding week, and 9 in excess of the average for the forty-first week of the last ten years. They comprise 1 from small-pox—that of a man aged 40 years, who had been vaccinated—1 from scarlet fever (scarlatina), 3 from whooping-cough, 1 from diphtheria, 1 from cerebro-spinal meningitis, 1 from simple continued fever, 5 from enteric fever, 1 from choleraic diarrhoea, 16—those of 6 infants under 1 year old, of 8 children aged 1 year and under 5 years and of 2 adults—from diarrhoea, being 10 over the number of deaths from that cause in the preceding week, and 8 above the average for the forty-first week of the last ten years. One death from influenza was also registered.

Only 1 case of small-pox was admitted to hospital. In the preceding week the admissions of cases of this disease amounted to 11, and in the week ended September 28, the number was 2. Three small-pox patients were discharged, 1 died, and 24 remained under treatment on Saturday, being 8 under the number in hospital at the close of the preceding week.

The cases of enteric fever admitted to hospital amounted to 23, against 15 admissions in the preceding week and 17 in that ended September 28. Ten patients were discharged, 1 died, and 91 remained under treatment on Saturday, being 12 in excess of the number in hospital on that day week.

There has been a further increase in the number of cases of

scarlatina admitted to hospital, the admissions amounting to 28, or 7 over the number admitted during the previous week and 16 over the admissions in the week ended September 28. Nine patients were discharged, and 106 remained under treatment on Saturday, being 19 over the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered was 21, being 2 below the average for the corresponding week of the last ten years, and 6 under the number for the previous week. The 21 deaths comprise 12 from bronchitis and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, October 19, the mortality in thirty-three large English towns, including London (in which the rate was 17.9), was equal to an average annual death-rate of 19.1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18.7 per 1,000. In Glasgow the rate was 17.8, and in Edinburgh it was 17.3.

The average annual death-rate in the sixteen principal town districts of Ireland was 22.8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2.8 per 1,000, the rates varying from 0.0 in eleven of the districts to 4.6 in Belfast—the 140 deaths from all causes registered in that district comprising 2 from measles, 7 from scarlatina, 1 from whooping-cough, 6 from enteric fever, and 8 from diarrhoea. Among the 20 deaths from all causes registered in Cork are 2 from diarrhoea. The 9 deaths in Londonderry comprise 1 from whooping-cough and 1 from enteric fever.

In the Dublin Registration District the registered births amounted to 188—89 boys and 99 girls; and the registered deaths to 162—85 males and 77 females.

The deaths, which are 10 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24.2 in every 1,000 of the population. Omitting the death of 1 person admitted to hospital from without the district, the rate was 24.0 per 1,000. During the first forty-two weeks of the current year the death-rate averaged 28.9, and was 1.8 over the mean rate in the corresponding period of the ten years, 1885-1894.

The number of deaths from zymotic diseases registered was 22, being equal to the average for the corresponding week of the last ten years, but 11 under the number for the previous week. The 22 deaths comprise 3 from scarlet fever (scarlatina), 1 from influenza, 1 from diphtheria, 4 from enteric fever, and 12—those

of 6 infants under 1 year old, 5 children aged 1 year and under 5 years, and 1 adult—from diarrhoea. The deaths from diarrhoea show a decline of 4 as compared with the number of deaths from that disease in the preceding week, but are 5 in excess of the average for the forty-second week of the last ten years.

Two cases of small-pox were admitted to hospital, against 1 admission in the preceding week and 11 admissions in the week ended October 5. Two small-pox patients were discharged, and 24 remained under treatment on Saturday, being equal to the number in hospital at the close of the preceding week.

The number of cases of enteric fever admitted to hospital was 17, being 6 under the admissions in the preceding week, but 2 over the number for the week ended October 5. Eight patients were discharged, and 100 remained under treatment on Saturday, being 9 over the number in hospital on that day week.

The weekly number of cases of scarlatina admitted to hospital, which had risen from 12 in the week ended September 28 to 21 in the following week and to 28 in the week ended October 12, fell to 19. Ten patients were discharged, 1 died, and 114 remained under treatment on Saturday, being 8 over the number in hospital at the close of the preceding week.

Twenty-one deaths from diseases of the respiratory system were registered, being equal to the number for the preceding week, but 4 below the average for the forty-second week of the last ten years. They comprise 12 from bronchitis and 7 from pneumonia or inflammation of the lungs.

In the week ending Saturday, October 26, the mortality in thirty-three large English towns, including London (in which the rate was 17.5), was equal to an average annual death-rate of 19.7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18.9 per 1,000. In Glasgow the rate was 20.3, and in Edinburgh it was 15.8.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 21.6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2.9 per 1,000, the rates varying from 0.0 in nine of the districts to 5.2 in Belfast—the 120 deaths from all causes registered in that district comprising 3 from measles, 2 from scarlatina, 1 from whooping-cough, 1 from diphtheria, 12 from enteric fever, and 8 from diarrhoea. Among the

14 deaths from all causes registered in Limerick are 1 from scarlatina and 1 from typhus. The 19 deaths in Londonderry comprise 3 from diarrhoea.

In the Dublin Registration District the registered births amounted to 152—89 boys and 63 girls; and the registered deaths to 139—62 males and 77 females.

The deaths, which are 23 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 20.7 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 20.0 per 1,000. During the first forty-three weeks of the current year the death-rate averaged 28.7, and was 1.7 over the mean rate in the corresponding period of the ten years, 1885–1894.

The number of deaths from zymotic diseases registered was 17, being 7 below the average for the corresponding week of the last ten years, and 5 under the number in the previous week. The 17 deaths comprise 1 (that of an unvaccinated infant three months old) from small-pox, 1 from scarlet fever (scarlatina), 2 from whooping-cough, 5 from enteric fever, 5 from diarrhoea, 1 from dysentery, and 1 from remittent fever.

Four cases of small-pox were admitted to hospital, against 2 admissions in the preceding week and 1 in that ended October 12. Nine small-pox patients were discharged, 1 died, and 18 remained under treatment on Saturday, being 6 under the number in hospital at the close of the preceding week.

The number of cases of enteric fever admitted to hospital was 13, being 4 under the admissions in the preceding week: 16 patients were discharged, 3 died, and 94 remained under treatment on Saturday, being 6 under the number in hospital on that day week.

The hospital admissions included, also, 17 cases of scarlatina. This number shows a decline of 2 as compared with the number of cases of this disease admitted during the preceding week, and is 11 under the admissions in the week ended October 12. Twenty-four scarlatina patients were discharged, 1 died, and 106 remained under treatment on Saturday, being 8 under the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered was 21, being equal to the number for each of the two weeks preceding, but 7 below the average for the forty-third week of the last ten years. The 21 deaths comprise 11 from bronchitis and 7 from pneumonia or inflammation of the lungs.

. In the week ending Saturday, November 2, the mortality in thirty-three large English towns, including London (in which the rate was 21.2), was equal to an average annual death-rate of 21.9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20.5 per 1,000. In Glasgow the rate was 21.5, and in Edinburgh it was 19.4.

The average annual death-rate in the sixteen principal town districts of Ireland was 28.2 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2.1 per 1,000, the rates varying from 0.0 in nine of the districts to 4.4 in Drogheda—the 9 deaths from all causes registered in that district comprising 1 from typhus. Among the 152 deaths from all causes registered in Belfast are 2 from measles, 8 from scarlatina, 2 from whooping-cough, 1 from simple continued fever, 3 from enteric fever, and 6 from diarrhoea.

In the Dublin Registration District the registered births amounted to 174—87 boys and 87 girls; and the registered deaths to 211—106 males and 105 females.

The deaths, which are 30 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 31.5 in every 1,000 of the population. Omitting the deaths (numbering 11) of persons admitted into public institutions from localities outside the district, the rate was 29.8 per 1,000. During the first forty-four weeks of the current year the death-rate averaged 28.8, and was 1.8 over the mean rate in the corresponding period of the ten years, 1885–1894.

Nineteen deaths from zymotic diseases were registered, being 2 over the number for the preceding week, but 8 below the average for the forty-fourth week of the last ten years. They comprise 1 from small-pox—that of a man aged 24 years who had been vaccinated—5 from scarlet fever (scarlatina), 2 from influenza and its complications, 1 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 4 from diarrhoea.

The number of cases of small-pox admitted to hospital was 3, being 1 under the admissions during the preceding week, and 1 over the number admitted in the week ended October 19. Four small-pox patients were discharged, 1 died, and 16 remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week.

Sixteen cases of enteric fever were admitted to hospital against 13 admissions in the preceding week and 17 in that ended October 19. Sixteen patients were discharged, 1 died, and 93 remained

under treatment on Saturday, being 1 under the number in hospital on that day week.

The number of cases of scarlatina admitted to hospital was 13, being 4 under the admissions in the preceding week and 6 under the number for that ended October 19. Eleven patients were discharged, 2 died, and 106 remained under treatment on Saturday, being equal to the number in hospital on that day week.

Deaths from diseases of the respiratory system amounted to 51, being 80 over the number for each of the three weeks preceding, and 18 in excess of the average for the forty-fourth week of the last ten years. The 51 deaths comprise 34 from bronchitis and 14 from pneumonia or inflammation of the lungs.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of October, 1895.

Mean Height of Barometer, - - - - -	29.865 inches.
Maximal Height of Barometer (on 17th, at 9 a.m.),	30.518 "
Minimal Height of Barometer (on 3rd, at 9 a.m.),	29.077 "
Mean Dry-bulb Temperature, - - - - -	44.7°.
Mean Wet-bulb Temperature, - - - - -	42.9°.
Mean Dew-point Temperature, - - - - -	40.8°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	.260 inch.
Mean Humidity, - - - - -	86.8 per cent.
Highest Temperature in Shade (on 1st), - - -	65.8°.
Lowest Temperature in Shade (on 29th), - - -	29.6°.
Lowest Temperature on Grass (Radiation) (on 29th), - - - - -	24.0°.
Mean Amount of Cloud, - - - - -	54.1 per cent.
Rainfall (on 16 days), - - - - -	2.840 inches.
Greatest Daily Rainfall (on 1st), - - - - -	.590 inch.
General Directions of Wind, - - - - -	N.W., W.

Remarks.

A very cold October, with a great preponderance of north-westerly winds—both cyclonic and anti-cyclonic systems advancing generally from N.W., and crossing the British Islands towards S.E. The mean temperature was nearly 13° below that of September—the change from the unusual warmth of the end of that month being singularly abrupt, and occurring as early as the morning of the 2nd. During the very cold period from the 21st to the 30th inclusive, thunder and lightning, and hail and sleet

showers prevailed day after day over the Irish Sea, St. George's Channel, and the western half of the English Channel. The inland frosts of this cold spell were unusually severe both in Great Britain and in Ireland. Snow lay on the Dublin Mountains on the 2nd, and also from the 22nd to the end of the month.

In Dublin the arithmetical mean temperature (46.2°) was much below the average (49.7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 44.7° . In the thirty years ending with 1894, October was coldest in 1892 (M. T. = 44.8°), in 1880 (M. T. = 45.4°), and in 1885 (M. T. = 45.5°). It was warmest in 1876 (M. T. = 53.1°). In 1886, the M. T. was as high as 52.0° ; in 1879 (the "cold year") it was 49.7° ; in 1887 it was as low as 47.3° ; in 1888, it was 49.1° ; in 1889, 48.1° ; in 1890, 51.7° ; in 1891, 49.5° ; and in 1893, 50.0° . October, 1892, beat the record for coldness. •

The mean height of the barometer was 29.865 inches, or 0.025 inch above the corrected average value for October—namely, 29.840 inches. The mercury rose to 30.518 inches at 9 a.m. of the 17th, and fell to 29.077 inches at 9 a.m. of the 3rd. The observed range of atmospheric pressure was, therefore, as much as 1.441 inch—that is, a little less than an inch and a half.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 44.7° , or 12.8° below the value for September. The arithmetical mean of the maximal and minimal readings was 46.2° , compared with a twenty-five years' average of 49.7° . Using the formula, *Mean Temp. = Min. + (max. — min. \times .485)*, the value was 46.0° , or 3.5° below the average mean temperature for October, calculated in the same way, in the twenty-five years, 1865-89, inclusive (49.5°). On the 1st the thermometer in the screen rose to 65.8° —wind, S.; on the 29th the temperature fell to 29.6° —wind, N.W. The minimum on the grass was 24.0° , also on the 29th. On five nights, the thermometer sunk to or below 32° in the screen, and on twelve nights frost occurred on the grass.

The rainfall was 2.840 inches, distributed over 16 days—the rainfall and the rainy days were below the average. The average rainfall for October in the twenty-five years, 1865-89 inclusive, was 3.106 inches, and the average number of rainy days was 17.6. In 1880 the rainfall in October was very large—7.358 inches on 15 days. In 1875, also, 7.049 inches fell on 26 days. On the other hand, in 1890 only .639 inch fell on but 11 days; in 1884 only .834 inch on but 14 days; and in 1868 only .856 inch on 15 days. In 1888, the rainfall was 1.227 inches on 16 days;

in 1889, 4.853 inches fell on 22 days. In 1891, 3.590 inches fell on 13 days; in 1892, 2.535 inches on 17 days; in 1893, 1.038 inches on 16 days, and in 1894, 3.967 inches on 20 days. From these figures it will be seen that October, 1890, proved the driest October on record for more than a quarter of a century at least.

There was a thunderstorm on the morning of the 26th, and lightning was seen on the nights of the 25th, 27th and 28th. High winds were noted on nine days, but attained the force of a gale on only two occasions—the 2nd and 3rd. The atmosphere was more or less foggy in Dublin on the 1st, 14th, 15th, 17th, 19th, 20th and 21st. Hail fell on the 2nd, 4th, 21st, 22nd, 24th, 25th, 26th and 31st; sleet on the 2nd, 22nd and 24th. A solar halo appeared on the 30th.

The period ended Saturday the 5th, witnessed the complete and final break-up of the warm, summer-like weather which had prevailed during the greater part of September. On Monday, September 30, the barometer began to fall quickly all over Western Europe, and on Tuesday, the 1st, storm, rain, thunder and lightning, and a remarkable fall of temperature spread eastwards across Ireland as a large and complex depression advanced from the Atlantic, its centre being off the east coast of Scotland at 8 a.m. of Wednesday. This disturbance caused a complete break-up of the fine, warm weather, so that with the passing of September came a sharp plunge from summer into winter. Nearly six tenths of an inch of rain fell in Dublin during the night of the 1st. Mount Leinster was snow-capped on the morning of the 2nd, which proved very inclement with heavy showers of sleety rain and hail, the thermometer in Dublin not rising above 49.7° in the screen and falling to 31.9° on the grass in the evening. A strong, tempestuous gale blew in the S.W. of England and on the Lancashire coasts, and this was renewed on Thursday. Dull, rainy weather brought the period to a close. In Dublin the barometer ranged between 29.077 inches at 9 a.m. of Thursday (wind, W., blowing a gale) and 29.663 inches at 9 p.m. of Friday (wind, W.). On Tuesday the screened thermometer rose to 65.5°, on Thursday they fell to 39.7°. The prevailing winds were W. and N.W. Rain fell on five days to the amount of .932 inch, .590 inch being registered on Tuesday, the 1st.

During the week ended Saturday, the 12th, except on Tuesday, which was a dull, rainy, cold day, favourable weather prevailed in Dublin, and indeed throughout the greater part of Ireland. In England and France conditions were unsettled and rain fell in large quantities. On Sunday a secondary atmospheric depression

passed across the S. of England towards E.N.E., causing copious rain there and throughout the northern half of France, Belgium, and North Germany. Heavy showers fell on this day in the North of Ireland also. On Monday evening a new depression approached the Land's End from S.W. This system developed considerable intensity as it advanced across England, and its centre lay over the E. and S.E. of that country at 8 a.m. of Wednesday. At the hour named strong S. winds were blowing at Dungeness, the North Foreland, and Yarmouth, equally strong N. winds at stations in the meridian of Greenwich and to the westward of it. Very heavy rains accompanied the disturbance, the largest measurement of all being 4·41 inches at Nice. Squally N.W. winds held until the end of the week in the rear of this depression, the centre of which lay over the Christiania Fjord on Friday morning. At this time gradients were made steep by the advance of an anticyclone over Ireland from the Atlantic. In consequence the wind rose to a moderate gale on Friday night. Cloudy, breezy, mild weather brought the period to a close. In Dublin the mean height of the barometer was 29·759 inches, pressure falling to 29·369 inches at 9 a.m. of Tuesday (wind, N.E.) and rising to 30·186 inches at 9 p.m. of Saturday (wind, W.). The corrected mean temperature was 49·3°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 48·2°. On Saturday the screened thermometers rose to 57·8°; on Thursday they fell to 39·1°. The prevailing wind was N.W. Rain fell on two days to the amount of 241 inch, 170 inch being registered on Tuesday.

During the week ended Saturday, the 19th, fine autumnal weather ruled, except on Monday and Tuesday when the British Isles were under the influence of shallow and irregular atmospheric depressions. These finally passed away or dispersed as a large anticyclone advanced from the north-westward on Tuesday and Wednesday. This fair-weather system governed the weather over Western Europe to the close of the week—fine days being succeeded by quiet, clear, cold, nights, with sharp frosts inland. Sunday was a dull, but fine, mild day. Heavy rains fell on Monday and Tuesday—the precipitation being especially large in parts of Ireland and the North of England—1·88 inches at Belmullet, 1·57 inches at Donaghadee, and 2·17 inches at Shields. As usually happens, slight but irregular barometric gradients and light variable winds, with unsteady temperature, led to these heavy rains. The principal downpour coincided with a rapid rise of the barometer, a setting in of N.E. and N. winds and a brisk fall of temperature. On Thursday morning the isobar of 30·50 inches embraced the

greater part of Great Britain and the N.E. and E. of Ireland. As the system of high pressure moved south-eastwards, southerly winds set in over Ireland, temperature rose and the amount of cloud increased. Early on Friday morning sharp frost prevailed at the inland English stations, the minima in the screen being 27° at Cambridge, 29° at Leith, York and Oxford, 30° at Loughborough, and 34° in the Southern London district. At the coast stations temperature was much higher—thus, at 8 a.m. of Friday the thermometer read 51° at Yarmouth, but only 29° at Cambridge. In Dublin the mean height of the barometer was 30.223 inches, pressure receding to 29.878 inches at 9 a.m. of Tuesday (wind, S.E.) and rising to 30.518 inches at 9 a.m. of Thursday (wind, E.). The corrected mean temperature was 50.3°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 49.3°. On Monday the screened thermometers rose to 61.8°, on Thursday they sank to 37.0°. The prevailing winds were E.N.E. and S.E. Rain fell on three days to the amount of .806 inch, .452 inch being measured on Monday.

A plunge into midwinter was the main feature of the week ended Saturday, the 26th. On Sunday, the anticyclone, which had prevailed for several days, was fast breaking up, but the weather remained fine and the shade temperature in Dublin reached 54.8°. Monday broke dull and chilly, and a cold rain fell throughout the afternoon, followed by hailshowers in the evening. After midnight, a equally N.E. wind prevailed, with driving showers of cold rain, sleet, and hail. At dawn the Dublin and Wicklow mountains were snowcapped, and so they remained to the end of the week. Between Tuesday and Thursday a long trough of low atmospheric pressure stretched across the Peninsula and France to the south of Scandinavia. Polar winds consequently prevailed in the British Islands, where the weather became exceedingly cold for the time of year. On Wednesday the thermometer fell to 23° in the shade at Parsonstown; on Thursday the same low value was reached at Loughborough, the minimum on the grass being 16°. In Dublin heavy hail showers fell about 2 p.m. on both Thursday and Friday, and lightning was seen on the latter day both before dawn and after dark. About 9 a.m. of Saturday a storm of thunder, lightning and hail passed over the south-eastern coast of Dublin Bay, and this was soon followed by a fall of hail in the city itself. At Longborough the minimum thermometer registered only 22° on Saturday morning. The mean height of the barometer in Dublin was 29.884 inches, pressure ranging between 30.249 inches at 9 a.m. of Sunday (wind, calm) and 29.521 inches at 9 a.m. of Thursday (wind, W.N.W.). The corrected mean temperature was

40.6°, the mean dry bulb reading at 9 a.m. and 9 p.m. being more than 2° lower—viz., 38.3°. On Sunday the shade maximum was as high as 54.8°, on Saturday the shade minimum was as low as 30.7°, the grass minimum being only 25.9°. The rainfall was .421 inch, distributed over four days, .388 inch being measured on Monday. The precipitation was chiefly in the form of hail and sleet. The prevalent wind was N.N.W.

During the earlier portion of the closing period—the 27th to the 31st inclusive—the weather was fair and cold on shore, but hail showers passed daily down the Irish Sea, St. George's Channel and across the mouth of the English Channel to the Channel Islands. These showers fell from massive cumuli and were accompanied by much thunder and lightning. On Wednesday the 30th, a depression advanced from N.W. across the British Isles, causing a rapid rise of temperature, much cloud and a heavy rainfall in many places. A fresh easterly wind was blowing as the month drew to a close.

The rainfall in Dublin during the ten months ending October 31st amounted to 23.716 inches on 146 days, compared with 12.366 inches on 123 days during the same period in 1887, 19.219 inches on 147 days in 1888, 24.789 inches on 169 days in 1889, 21.494 inches on 162 days in 1890, 21.610 inches on 148 days in 1891, 22.445 inches on 167 days in 1892, 16.141 inches on 138 days in 1893, 26.268 inches on 176 days in 1894, and a twenty-five years' average of 22.840 inches on 160.4 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in October amounted to 2.605 inches on 14 days. Of this quantity .575 inch fell on the 1st. The rainfall at Greystones in October, 1889, was no less than 6.935 inches on 22 days, or more than 11 times as great as the fall in October, 1890, when only .600 inch fell on 18 days. In 1891, 5.122 inches fell on 14 days; in 1892, 3.340 inches on 15 days; in 1893, .710 inch on 15 days, and in 1894 6.325 inches on 17 days. From January 1st, 1895, up to October 31st, rain fell at Knockdolian on 131 days to the total amount of 26.270 inches. In 1892, the rainfall of the corresponding ten months was 27.223 inches on 140 days; in 1893, 17.801 inches on 133 days, and in 1894, 32.221 inches on 154 days.

At Cloneevin, Killiney, Co. Dublin, the rainfall in October was 2.650 inches on 14 days, compared with 3.040 inches on 17 days in 1892, .710 inch on 14 days in 1893, 6.460 inches on 17 days in 1894, and a ten years' average of 2.787 inches on 17.6 days. On the 1st .65 inch fell. Since January 1, 1895, 24.23 inches of rain have fallen at this station on 143 days.

PERISCOPE.

HOW CHOLERA SPREADS IN INDIA.

THE following is an extract from a paper read before the Indian Medical Congress by Mr. Hankin, Fellow of St. John's College, Cambridge, Chemical Analyser and Bacteriologist to the Government N. W. P. and Oudh. The whole paper is most interesting and valuable. "In the native town [Cawnpore] the cholera microbe was practically everywhere. There is no sewerage system. Shallow surface drains exist in every street. At the time of my visit it seemed to me that these drains contained cholera dejecta with very little other liquor to dilute them. In some of the smaller streets the drain ran along the centre of the road, and it was impossible to walk along without placing one's foot at every step in cholera dejecta. In one room I saw a man dying of cholera. The evacuations went to the floor and thence out by a hole in the wall into the street. The room was about eight feet square. On the floor the brass vessel and the rope used for drawing water was lying defiled by the mess. The mouth of the well that furnished the water used by the household was in the room. This occurred in one of the largest streets in the town. In one street I saw a native who wanted to clean his brass drinking vessel. Natives usually scour these vessels with earth. In this case the earth was hard, and the man could not scoop any into his hand. He was, however, a man of resource. He happened to be standing in the gutter, and seeing by him one of these holes in the wall of a house that serve as an escape for sewage, he plunged his hand into it and pulled out a handful of black mud with which he cleaned his drinking vessel. Everywhere millions of flies were settling on the filth and cholera dejecta in the drains, and then settling in hundreds on the food displayed in the shops."

FOOTBALL AT WEST POINT.

IN the recent annual report of the Board of Visitors to the Military Academy at West Point the Committee on Hygiene and Athletics presented some statistics which would show that the opponents of football as it is now played have reason on their side. From a study of some tables prepared by Dr. Harvey from the hospital records for two periods of three months each in 1892 and 1893, the following figures were obtained:—Football

injuries, 91 ; injuries in riding-hall, 45 ; injuries in gymnasium, 19. But this is by no means a fair comparison, for there were but 61 football players, while those under instruction in the riding-hall numbered 382, and those in the gymnasium 207. Furthermore, football was played but once a week, while the riding exercises took place three times a week, and those in the gymnasium six times. Finally, the football injuries were, as a rule, more severe than those sustained in the riding-hall or gymnasium. "So far as we know," the Committee reports, "this is the first contribution of accurate comparative data of these three forms of athletics in the same institution, under identical surroundings and by the same class of men. If the frequency of gymnastics (six times a week), of riding (three times a week), and of football (once a week) are taken into account it shows that per man playing there were respectively from about twenty to over one hundred times as many accidents in football as in the riding-hall and in the gymnasium, and that the gravity of the accidents as measured by the number of days lost per man playing or per man injured, or by the number of men off duty per diem, is vastly greater from football than from either of the other two forms of athletics."—*Medical Record*.

CYCLING.

DR. BLAJEVITCH, of St. Petersburg, has published the results of his observations upon the physiological effects of cycling. These showed that the play of the chest immediately after riding diminishes from 1 to 1'15 cm., especially in the cases of women and children, and of men racing or beginning to use the cycle. The general effect of a summer's riding on men was practically nil ; in women and children the vital capacity was slightly increased. The arm power was found to have increased more than the leg power in young persons and in beginners, but in the case of mature men used to cycling this was not so evident.—*Medical Record*.

FRENCH POPULATION STATISTICS.

DURING the year 1893 were registered 287,294 marriages, 6,184 divorces, 874,672 births, and 867,526 deaths. The increase of births over deaths was 7,146 (the population of England, with nine millions less, increased during the same period by over 500,000). The percentage of marriages was 0'7, of births, 2'29, and of deaths, 2'28. The total number of illegitimate children was 76,562, which is the highest figure yet reached, and represents 8'8 per cent. of the natality.—*Medical Record*.

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